



Long: US Sanction Paper

Title:	Lease Accounting Updates and Contract Management	Sanction Paper #:	USSC-19-027 v2
Project #:	INVP 5360	Sanction Type:	Sanction
Capex #:	5008007		
Operating Company:	National Grid USA Svc. Co.	Date of Request:	7/1/2019
Author:	Weisbord, Ella Garg, Anil	Sponsor:	Sturgess, Kate Senior Financial Controller
Utility Service:	IT	Project Manager:	Parikh, Samir

Executive Summary

This paper requests Sanction of INVP 5360 in the amount of \$6.948M with a tolerance of +/-10% for the purposes of Development and Implementation.

This sanction amount is \$6.948M broken down into:

\$6.257M Capex
\$0.691M Opex
\$0.000M Removal

Project Summary

This initiative will support modifying existing processes to adhere to new lease accounting standards. This project will ensure full compliance with International Financial Reporting Standards 16 (IFRS 16) and Accounting Standards Codification topic 842 (ASC 842) for US Generally Accepted Accounting Principles (GAAP) for all lease categories identified by National Grid.

Background

National Grid follows GAAP adopted by the US Securities and Exchange Commission (SEC) as well as IFRS.

IFRS 16 – Leases, was issued in January 2016 and applies to annual reporting periods beginning on or after January 1, 2019. Similarly, ASC 842, Leases (GAAP), is in effect at the same time and all reporting have to be done according to the new standards starting from the first quarter of calendar year 2019.

This project will:

- Ensure full compliance with ASC 842 and IFRS 16 accounting standards for all lease categories identified by National Grid
- Improve reporting capabilities
- Update templates as required

- Convert existing leases and master data into new lease module (Accounting master data i.e. major locations, asset locations, asset identification (IDs), General Ledger (G/L) accounts etc.)
- Deliver One Consolidated Lease module that houses all National Grid leases (including existing Fleet leases)
- Provide training on new lease module

In addition, the project will implement Cognitive Contract Management solution which leverages KPMG's modular cognitive capabilities to ingest, analyze and automate decision making during the Contract Management Lifecycle. This solution intends to:

- Read Contracts: The ability to read/ ingest documents, such as contracts, invoices, amendments, price lists, catalogs, financials, etc.
- Understand Information: Neuro Linguistic Programming (NLP) enables Cognitive Contract Management to understand the meaning of the text based on trained subject matter expertise.
- Interpret Contract: Solution utilizes custom built assessment criteria using pre-existing policy, rules, regulations, business objectives. to extract information, and transform the information into structured, enabled format.
- Automate Decisions: Cognitive Contract Management can make decisions and provide answers to questions, produce insights, identify patterns and anomalies

Project Descriptions

This project will:

- Identify the impact that IFRS 16 and ASC 842 have on the current business and model future state
- Ensure Stakeholder engagement, including Operations and Regulatory
- Develop and Implement project deliverables to establish future state process ahead of 2019 financial reporting
- Implement PowerPlan Lease Module
- Implement Cognitive Contract Management (CCM) for leases including Fleet Interface for PowerPlan Lease Module

Summary of Benefits

The main benefits of this project are:

- Compliance with mandatory accounting standards (IFRS16 and ASC842).
- Ensuring that leases are correctly reflected on the Company's financial statements.
- Ensuring an effective control environment around the gathering and tracking of lease agreements and accounts.
- Capturing and maintaining of complete and accurate lease contract information.
- Establishing an automated solution to review new agreements which should increase efficiencies and accuracy in data gathering.

Business and Customer Issues

There are no significant business or customer issues beyond what has been described elsewhere.

Alternatives

Number	Title
1	

Manual Work Around

Rejected: A manual alternative is not feasible based upon the volume of actual leases the National Grid has and which must be read and analyzed to determine the proper accounting treatment. National Grid does not have the staffing or bandwidth to employ the manual approach

Indicative cost: N/A

2 Do Nothing

Rejected: This is not recommended due to the timeline dictated by US GAAP and IFRS.

Indicative cost: N/A

Related Projects, Scoring and Budget

Summary of Projects

<i>Project Number</i>	<i>Project Type (Elec only)</i>	<i>Project Title</i>	<i>Estimate Amount(\$M)</i>
5360		Lease Accounting Updates and Contract Management	6.948
Total:			6.948

Associated Projects

<i>Project Number</i>	<i>Project Title</i>	<i>Estimate Amount (\$M)</i>
		0.000

Prior Sanctioning History

<i>Date</i>	<i>Governance Body</i>	<i>Sanctioned Amount</i>	<i>Potential Project Investment</i>	<i>Sanction Type</i>	<i>Sanction Paper</i>	<i>Potential Investment Tolerance</i>
2/12/2019	USSC	\$2.100M	\$5.612M	Partial Sanction	USSC-19-027 v1	25%

Note: The key driver of the cost increase is a delay in project go-live from 1 April to 15 July. This was due in part to additional time required to complete testing and lock-down the cutover plan. In addition, the project was impacted by the Data Center migration delay. This resulted in additional hosting costs and personnel effort. Additionally, US Finance hired external resources to assist with testing

Key Milestones

<i>Milestone</i>	<i>Date (Month / Year)</i>
Start Up	September, 2018
Partial Sanction	February, 2019
Begin Requirements and Design	February, 2019
Project Sanction	June, 2019
Begin Development and Implementation	June, 2019
Begin User Acceptance Testing	June, 2019
Move to Production / Final Go Live	August, 2019
Project Closure Sanction	November, 2019

Next Planned Sanction

Date (Month/Year)	Purpose of Sanction Review
November, 2019	Closure

Category	Reference to Mandate, Policy, NPV, or Other
<input checked="" type="radio"/> Mandatory <input type="radio"/> Policy-Driven <input type="radio"/> Justified NPV <input type="radio"/> Other	This project will ensure compliance to accounting standards IFRS16 and ASC842 by US GAAP and IFRS

Asset Management Risk Score:

PRIMARY RISK SCORE DRIVER

☐ Reliability ☐ Environment ☐ Health & Safety ☒ Not Policy Driven

Complexity Level: 24

☐ High Complexity ☒ Medium Complexity ☐ Low Complexity ☐ N/A

Process Hazard Assessment

A Process Hazard Assessment (PHA) is required for this project: ☐ Yes ☒ No

Current Planning Horizon

Capex	3.608	2.649	0.000	0.000	0.000	0.000	0.000	6.257
Opex	0.475	0.216	0.000	0.000	0.000	0.000	0.000	0.691
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	4.083	2.865	0.000	0.000	0.000	0.000	0.000	6.948

Resources, Operations, & Procurement

RESOURCE SOURCING

Engineering & design Resources to be provided	<input checked="" type="checkbox"/> Internal	<input checked="" type="checkbox"/> Contractor
Construction/Implementation Resources to be provided	<input checked="" type="checkbox"/> Internal	<input checked="" type="checkbox"/> Contractor

RESOURCE DELIVERY

Availability of internal resources to delivery project:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
Availability of external resources to delivery project:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green

OPERATIONAL IMPACT

Outage impact on network system	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
---------------------------------	---------------------------	-----------------------------	--

PROCUREMENT IMPACT

Procurement impact on
network system:

☐ Red

☐ Amber

☒ Green

Key Issues

Climate Change

Contribution to National Grid's
2050 80% emissions reduction
target:

☒ Neutral

☐ Positive

☐ Negative

Impact on adaptability of network
for future climate change:

☒ Neutral

☐ Positive

☐ Negative

List References

N/A

Safety, Environmental and Project Planning Issues

There are no significant issues beyond what has been described elsewhere.

Permitting

N/A

Investment Recovery and Customer Impact

Investment Recovery

Recovery will occur at the time of the next rate case for any operating company receiving allocations of these costs.

Customer Impact

N/A

Execution Risk Appraisal

Risk Breakdown Structure Category	Qualitative Assessment / Risk Response Strategy				Risk Score
	Risk ID + Title	IF Statement	THEN Statement	Risk Response Strategy	
13. Project Management	R1 - Resource availability to complete PowerPlan Lease testing	IF resources are not available to complete required testing	THEN it could prevent us meeting with the mandated Go Live and may have cascading affect on other SAP projects	Mitigate Plan is to use all the resources available to ensure we have sufficient	8

[illegible]

Total	4.083	2.865	0.000	0.000	0.000	0.000	0.000	6.948
--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------

Total Project Sanction

Capex	3.608	2.649	0.000	0.000	0.000	0.000	0.000	6.257
Opex	0.475	0.216	0.000	0.000	0.000	0.000	0.000	0.691
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	4.083	2.865	0.000	0.000	0.000	0.000	0.000	6.948

Project Costs per Business Plan

\$M	Prior Yrs	Yr 1 2020	Yr 2 2021	Yr 3 2022	Yr 4 2023	Yr 5 2024	Yr 6 2025	Total
Capex	3.608	2.823	0.000	0.000	0.000	0.000	0.000	6.431
Opex	0.475	0.097	0.000	0.000	0.000	0.000	0.000	0.572
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Cost in Bus. Plan	4.083	2.920	0.000	0.000	0.000	0.000	0.000	7.003

Variance

\$M	Prior Yrs	Yr 1 2020	Yr 2 2021	Yr 3 2022	Yr 4 2023	Yr 5 2024	Yr 6 2025	Total
Capex	0.000	0.174	0.000	0.000	0.000	0.000	0.000	0.174
Opex	0.000	(0.119)	0.000	0.000	0.000	0.000	0.000	(0.119)
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Variance	0.000	0.055	0.000	0.000	0.000	0.000	0.000	0.055

Cost Assumptions

The accuracy level of estimate for each project is identified in the Cost Summary Table

Net Present Value / Cost Benefit Analysis

N/A

NPV Assumptions & Calculations

N/A

Additional Impacts

Statement of Support

Department	Individual	Responsibilities
Business Department	Donoghue, William F.	Business Representative
Business Partner (BP)	Semel, Joel	Relationship Manager
Program Delivery Management (PDM)	Parikh, Samir	Program Delivery Director
IT Finance	Harris, Michelle	Manager
IT Regulatory	DeMauro, Daniel J.	Director
Digital Risk and Security (DR&S)	Wilson, Elaine	Director
Service Delivery	Mirizio, Mark	Manager
Enterprise Architecture	Clinchot, Joseph J.	Director
Enterprise Portfolio Management	Cronin, Daniel	Analyst

Reviewers

Function	Individual
Regulatory	Mancinelli, Lauri A.
Jurisdictional Delegate - Electric NE	Easterly, Patricia
Jurisdictional Delegate - Electric NY	Harbaugh, Mark A.
Jurisdictional Delegate - FERC	Hill, Terron
Jurisdictional Delegate - Gas NE	Smith, Amy
Jurisdictional Delegate - Gas NY	Wolf, Don
Procurement	Chevere, Diego

Decisions

This paper was approved using the fast track approval process and will be noted at the next USSC meeting to be held on July 10, 2019 :

- (a) APPROVE the investment of \$6.948M and a tolerance of +/-10% for Development and Implementation.
- (b) NOTED that Parikh, Samir has the approved financial delegation
- (c) Approved the run-the-business (RTB) of \$0.034M (per annum) for 5 years.

Signature David H. Campbell
Date 7/19/19

David H. Campbell, Vice President US Treasury, USSC Chair

Appendix

COST BREAKDOWN STRUCTURE TABLE

Project Cost Breakdown \$ (millions)					
Cost Category	sub-category	Value of Work to Date (VOWD)	Forecast to Complete (FTC)	Forecast At Completion (FAC=VOWD+FTC)	Name of Firm(s) providing resources
Personnel	NG Resources		0.219	0.219	
	SDC Time & Materials			-	IBM
			0.111	0.111	WiPro
				-	DXC
				-	Verizon
	SDC Fixed-Price		0.012	0.012	IBM
				-	WiPro
				-	DXC
				-	Verizon
	All other personnel		3.362	3.362	
	TOTAL Personnel Costs		3.704	3.704	
Hardware	Purchase			-	
	Lease			-	
Software			0.016	0.016	
Risk Margin			0.076	0.076	
AFUDC			0.263	0.263	
Other			0.285	0.285	
TOTAL Costs			4.343	4.343	

VENDOR BREAKDOWN

Vendor	\$ millions		
	VOWD	FTC	FAC=VOWD+FTC
IBM	0.000	0.012	0.012
WiPro	0.000	0.111	0.111

DXC	0.000	0.000	0.000
Verizon	0.000	0.000	0.000
Other	0.000	0.385	0.385
PowerPlan	0.000	1.006	1.006
KPMG	0.000	2.025	2.025
FIT	0.000	0.008	0.008
Powerbuilder	0.000	0.002	0.002
Arc Two	0.000	0.191	0.191

NG Resources	0.000	0.219	0.219
AFUDC	0.000	0.263	0.263
Risk		0.076	0.076
Shared Overhead		0.046	0.046
Total	0.000	4.343	4.343
Variance to Proj Cost Breakdown	0.000	0.000	0.000

BENEFITING OPERATING COMPANIES:

CoSeg	Company Name	SAP Co.	SAP Seg	Jurisdiction	BU
5180E	National Grid Elec. Services	5180	SERVCO	SERVCO	Electric
5210E	Niagara Mohawk Power Corp.- Electric Distr.	5210	NYELEC	NY	Electric
5210G	Niagara Mohawk Power Corp. - Gas	5210	NYGASD	NY	Gas
5210T	Niagara Mohawk Power Corp. - Transmission	5210	NYTRAN	NY	Transmission
5220G	KeySpan Energy Delivery New York	5220	NYGASD	NY	Gas
5230G	KeySpan Energy Delivery Long Island	5230	NYGASD	NY	Gas
5310E	Massachusetts Electric Company	5310	MAELEC	MA	Electric
5310F	Massachusetts Electric Company - GNSC	5310	FRELEC	FERC	Electric
5310T	Massachusetts Electric Company - Transmission	5310	FRTRAN	FERC	Transmission
5320E	Nantucket Electric Company	5320	MAELEC	MA	Electric
5330G	Boston Gas Company	5330	MAGASD	MA	Gas
5340G	Colonial Gas Company	5340	MAGASD	MA	Gas
5360E	Narragansett Electric Company	5360	RIELEC	RI	Electric
5360F	Narragansett Electric Company - GNSC	5360	FRELEC	FERC	Electric
5360G	Narragansett Gas Company	5360	RIGASD	RI	Gas
5360T	Narragansett Electric Company - Transmission	5360	FRTRAN	FERC	Transmission
5410F	New England Power Company - GNSC	5410	FRELEC	FERC	Electric
5410T	New England Power Company - Transmission	5410	FRTRAN	FERC	Transmission
5411F	NE Hydro - Trans Electric Co.	5411	FRELEC	FERC	Transmission -
5412F	New England Hydro - Trans Corp.	5412	FRELEC	FERC	Transmission -
5413F	New England Electric Trans Corp	5413	FRELEC	FERC	Transmission -
5420G	NG LNG LP Regulated Entity	5420	FRGASO	FERC	Gas
5421G	NG LNG LP LLC	5421	FRGASO	FERC	Gas
5430P	KeySpan Generation LLC (PSA)	5430	FRPGEN	FERC	Transmission
5431P	KeySpan Glenwood Energy Center	5431	FRPGEN	FERC	Transmission
5432P	KeySpan Port Jefferson Energy Center	5432	FRPGEN	FERC	Transmission

RTB TABLE

all figures in \$ thousands

INV ID:	5360				Date RTB Last Forecast ed	#####
Investment Name:	PowerPlan Finance Leasing					
Project Manager:	Cathleen Kabak			PDM:	Samir Parikh	
All figures in \$ thousands	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Total
	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	
Last Sanctioned Net Impact to RTB						
Last Sanction IS Net Impact to RTB						-
Last Sanction Business Net Impact to RTB						-
Last Sanction Total Net Impact to RTB	-	-	-	-	-	-
Planned/Budgeted Net Impact to RTB						
IS Investment Plan Net Impact to RTB						-
Business Budgeted Net Impact to RTB						-
Currently Forecasted Net Impact to RTB						
IS Funded Net Impact to RTB Forecasted at Go-Live	62.1	65.0	34.4	34.4	34.4	230.3
Business Funded Net Impact to RTB Forecasted at Go-Live	-	-	-	-	-	-
Variance to Planned/Budgeted Net Impact to RTB						
IS Investment Plan Net Impact to RTB Variance	(62.1)	(65.0)	(34.4)	(34.4)	(34.4)	(230.3)
Business Budgeted Net Impact to RTB Variance	-	-	-	-	-	-



US Sanction Paper

Title:	Lease Accounting Updates and Contract Management	Sanction Paper #:	USSC-19-027
Project #:	INVP 5360 CapEx: S008007	Sanction Type:	Partial Sanction
Operating Company:	National Grid USA Svc. Co.	Date of Request:	2/12/2019
Author / NG Representative:	Anil Garg / Ella Weisbord	Sponsor:	Kate Sturgess, VP US Financial Controller
Utility Service:	IT	Project Manager:	Samir Parikh

1 Executive Summary

1.1 **Sanctioning Summary**

This paper requests partial sanction of INVP 5360 in the amount of \$2.100M with a tolerance of +/- 10% for the purposes of Requirements and Design.

This sanction amount is \$2.100M broken down into:

\$1.400M Capex

\$0.700M Opex

\$0.000M Removal

NOTE the potential investment of \$5.621M with a tolerance of +/- 25% contingent upon submittal and approval of a Project Sanction paper following completion of Requirements and Design.

1.2 **Project Summary**

This initiative will support the need to modify existing processes to adhere to the new leasing accounting standard. This project will ensure full compliance with International Financial Reporting Standards 16 (IFRS 16) and Accounting Standards Codification topic 842 (ASC 842) for US Generally Accepted Accounting Principles (GAAP) & International Financial Reporting Standards (IFRS) accounting standards for all lease categories identified by National Grid.

1.3 **Summary of Projects**

Project Number	Project Type (Elec only)	Project Title	Estimate Amount (\$M)
INVP 5360 CapEx: S008007		Lease Accounting Updates and Contract Management	5.621
Total			5.621



US Sanction Paper

1.4 Associated Projects

N/A

1.5 Prior Sanctioning History

N/A

1.6 Next Planned Sanction Review

Date (Month/Year)	Purpose of Sanction Review
February 2019	Project Sanction

1.7 Category

Category	Reference to Mandate, Policy, NPV, or Other
<input checked="" type="radio"/> Mandatory <input type="radio"/> Policy- Driven <input type="radio"/> Justified NPV <input type="radio"/> Other	This project will ensure compliance to accounting standards IFRS16 and ASC842 by US GAAP and IFRS.

1.8 Asset Management Risk Score

Asset Management Risk Score: 42

Primary Risk Score Driver: (Policy Driven Projects Only)

☐ Reliability
☐ Environment
☐ Health & Safety
☒ Not Policy Driven

1.9 Complexity Level

☐ High Complexity
☒ Medium Complexity
☐ Low Complexity
☐ N/A

Complexity Score: 24



US Sanction Paper

1.10 Process Hazard Assessment

A Process Hazard Assessment (PHA) is required for this project:

☐ Yes ☒ No

1.11 Business Plan

Business Plan Name & Period	Project included in approved Business Plan?	Over / Under Business Plan	Project Cost relative to approved Business Plan (\$)
IT Investment Plan FY19 - 23	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Over <input type="radio"/> Under <input type="radio"/> NA	\$0.221M

1.12 If cost > approved Business Plan how will this be funded?

Re-allocation of budget from US Finance to the IT business has been managed to meet jurisdictional budgetary, statutory and regulatory requirements.

1.13 Current Planning Horizon

\$M	Prior Yrs	Current Planning Horizon						
		Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6 +	Total
		2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	
CapEx	0.000	3.877	1.136	0.000	0.000	0.000	0.000	5.013
OpEx	0.000	0.494	0.114	0.000	0.000	0.000	0.000	0.608
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CIAC/Reimbursement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	4.371	1.250	0.000	0.000	0.000	0.000	5.621



US Sanction Paper

1.14 Key Milestones

Milestone	Target Date: (Month Year)
Start Up	September 2018
Partial Sanction	February 2019
Begin Requirements and Design	February 2019
Project Sanction	March 2019
Begin Development and Implementation	March 2019
Begin User Acceptance Testing	March 2019
Move to Production / Last Go Live	May 2019
Project Closure	September 2019

1.15 Resources, Operations and Procurement

Resource Sourcing			
Engineering & Design Resources to be provided	<input checked="" type="checkbox"/> Internal	<input checked="" type="checkbox"/> Contractor	
Construction/Implementation Resources to be provided	<input checked="" type="checkbox"/> Internal	<input checked="" type="checkbox"/> Contractor	
Resource Delivery			
Availability of internal resources to deliver project:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
Availability of external resources to deliver project:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
Operational Impact			
Outage impact on network system:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
Procurement Impact			
Procurement impact on network system:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green

1.16 Key Issues (include mitigation of Red or Amber Resources)

N/A



US Sanction Paper

1.17 Climate Change

Contribution to National Grid's 2050 80% emissions reduction target:	<input checked="" type="radio"/> Neutral	<input type="radio"/> Positive	<input type="radio"/> Negative
Impact on adaptability of network for future climate change:	<input checked="" type="radio"/> Neutral	<input type="radio"/> Positive	<input type="radio"/> Negative

1.18 List References

N/A



US Sanction Paper

2 Decisions

I:

- (a) APPROVE this paper and the investment of \$ 2.100M and a tolerance of +/-10% for the purposes of Requirements and Design
- (b) NOTE the potential run-the-business (RTB) impact of \$ 0.940M total for 5 years.
- (c) NOTE the potential investment \$ 5.621M and a tolerance of +/- 25%, contingent upon submittal and approval of a Project Sanction paper following completion of requirements and design.
- (d) NOTE that Samir Parikh is the Project Manager and has the approved financial delegation to undertake the activities stated in (a).

Signature.....Date.....

David H. Campbell, Vice President ServCo Business Partnering, USSC Chair



US Sanction Paper

3 Sanction Paper Detail

Title:	Lease Accounting Updates and Contract Management	Sanction Paper #:	USSC-19-027
Project #:	INVP 5360 CapEx: S008007	Sanction Type:	Partial Sanction
Operating Company:	National Grid USA Svc. Co.	Date of Request:	2/12/2019
Author / NG Representative:	Anil Garg / Ella Weisbord	Sponsor:	Kate Sturgess, VP US Financial Controller
Utility Service:	IT	Project Manager:	Samir Parikh

3.1 *Background*

National Grid is following the Generally Accepted Accounting Principles (GAAP or U.S. GAAP) adopted by the US Securities and Exchange Commission (SEC) as well as International Financial Reporting Standards (IFRS).

IFRS 16 – Leases, was issued in January 2016 and applies to annual reporting periods beginning on or after January 1, 2019. Similarly, ASC 842, Leases (GAAP), is going in effect at the same time and all reporting have to be done according to the new standards starting from the first quarter of calendar year 2019.

This project will:

- Ensure full compliance with ASC 842 and IFRS 16 accounting standards for all lease categories identified by National Grid
- Improve reporting capabilities
- Update templates as required
- Convert existing leases and master data into new lease module (Accounting master data i.e. major locations, asset locations, asset identification (IDs), General Ledger (G/L) accounts etc.)
- Deliver One Consolidated Lease module that houses all National Grid leases (including existing Fleet leases)
- Provide training on new lease module

In addition, the project will implement Cognitive Contract Management solution which leverages KPMG's modular cognitive capabilities to ingest, analyze and automate decision making during the Contract Management Lifecycle. Solution allows

- Read Contracts: The ability to read/ ingest documents, such as contracts, invoices, amendments, price lists, catalogs, financials, etc.



US Sanction Paper

- Understand Information: Neuro Linguistic Programming (NLP) enables Cognitive Contract Management to understand the meaning of the text based on trained subject matter expertise.
- Interrupt Contract: Solution utilizes custom built assessment criteria using pre-existing policy, rules, regulations, business objectives. to extract information, and transform the information into structured, enabled format.
- Automate Decisions: Cognitive Contract Management can make decisions and provide answers to questions, produce insights, identify patterns and anomalies

3.2 Drivers

This project is driven by National Grid's need to stay compliant with accounting standards.

3.3 Project Description

This project will:

- Identify the impact that IFRS 16 and ASC 842 has on current business and model future state
- Ensure Stakeholder engagement, including Operations and Regulatory
- Develop and Implement project deliverables to establish future state process ahead of 2019 financial reporting
- Implement PowerPlan Lease Module
- Implement Cognitive Contract Management (CCM) for leases including Fleet Interface for PowerPlan Lease Module.

During the Requirements and Design (R&D) phase of the project, the following should be accomplished:

- Document Business and Technical requirements
- Develop Solution design
- Document Key Capabilities required
- Design the testing strategy
- Define the training strategy
- Review and validate RTB (Running The Business) cost

3.4 Benefits Summary

The main benefits of this project are:

- Compliance with mandatory accounting standards (IFRS16 and ASC842).
- Ensuring that leases are correctly reflected on the Company's financial statements.



US Sanction Paper

- Ensuring an effective control environment around the gathering and tracking of lease agreements and accounts.
- Capturing and maintaining of complete and accurate lease contract information.
- Establishing an automated solution to review new agreements which should increase efficiencies and accuracy in data gathering.

3.5 Business and Customer Issues

There are no significant business issues beyond what has been described elsewhere.

3.6 Alternatives

Alternative 1: Manual Work Around

Rejected: This is not recommended as manual alternative is not feasible based upon the volume of actual leases the National Grid has and which must be read and analyzed to determine the proper accounting treatment. National Grid does not have the staffing or bandwidth to employ the manual approach

Indicative cost: N/A

Alternative 2: Do Nothing

Rejected: This is not recommended due to the timeline dictated by US GAAP and IFRC.

Indicative cost: N/A

3.7 Safety, Environmental and Project Planning Issues

There are no significant issues beyond what has been described elsewhere.



US Sanction Paper

3.8 Execution Risk Appraisal

Number	Detailed Description of Risk / Opportunity	Probability	Impact		Score		Strategy	Pre-Trigger Mitigation Plan	Residual Risk	Post Trigger Mitigation Plan
			Cost	Schedule	Cost	Schedule				
1	FIT Migration might need additional testing, resources	4	1	2	4	8	Mitigate	Aligning with business to plan additional testing to mitigate the risk with out compromising the delivery date and year end closing date		
2	Not enough NG resource availability to support the overlap testing required between multiple releases	3	1	2	3	6	Mitigate	Determine if NG resources available are sufficient or a staff augmentation is required		
3	Project timeline will allow only one dress rehearsal/mock cutover per release prior to Go Live	5	1	1	5	5	Accept	Additional testing & coordination will be brought to this single dress rehearsal		

3.9 Permitting

N/A

3.10 Investment Recovery

3.10.1 Investment Recovery and Regulatory Implications

Recovery will occur at the time of the next rate case for any operating company receiving allocations of these costs.

3.10.2 Customer Impact

N/A

3.10.3 CIAC / Reimbursement

N/A



US Sanction Paper

3.11 Financial Impact to National Grid

3.11.1 Cost Summary Table

Project Number	Project Title	Project Estimate Level (%)	Spend (\$M)	Prior Yrs	Current Planning Horizon						Total
					Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6 +	
INV P 5360 CapEx: S008007	Lease Accounting Updates and Contract Management	Est Lvl (+/- 25%)	CapEx	0.000	3.877	1.136	0.000	0.000	0.000	0.000	5.013
			OpEx	0.000	0.494	0.114	0.000	0.000	0.000	0.000	0.608
			Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			Total	0.000	4.371	1.250	0.000	0.000	0.000	0.000	5.621

3.11.2 Project Budget Summary Table

Project Costs per Business Plan

\$M	Prior Yrs (Actual)	Current Planning Horizon						Total
		Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6 +	
		2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	
CapEx	0.000	3.929	0.448	0.000	0.000	0.000	0.000	4.377
OpEx	0.000	0.979	0.044	0.000	0.000	0.000	0.000	1.023
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Cost in Bus. Plan	0.000	4.908	0.492	0.000	0.000	0.000	0.000	5.400

Variance (Business Plan-Project Estimate)

\$M	Prior Yrs (Actual)	Current Planning Horizon						Total
		Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6 +	
		2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	
CapEx	0.000	0.052	(0.688)	0.000	0.000	0.000	0.000	(0.636)
OpEx	0.000	0.485	(0.070)	0.000	0.000	0.000	0.000	0.415
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Cost in Bus. Plan	0.000	0.537	(0.758)	0.000	0.000	0.000	0.000	(0.221)

3.11.3 Cost Assumptions

This estimate was developed in 2018 using standard IT estimating methodology which includes an assessment of project resource needs. Examples of these resource needs include hardware, software, internal and contract labor required to deliver the project. The accuracy level of the estimate for each project is identified in Table 3.11.

3.11.4 Net Present Value / Cost Benefit Analysis

This is not an NPV project.

3.11.4.1 NPV Summary Table

N/A



US Sanction Paper

3.11.4.2 NPV Assumptions and Calculations

N/A

3.11.5 Additional Impacts

None

3.12 Statements of Support

3.12.1 Supporters

The supporters listed have aligned their part of the business to support the project.

Department	Individual	Responsibilities
Finance Technology Enablement	William Donoghue	Business Representative
Business Partner (BP)	Joel Semel	Relationship Manager
Program Delivery Management (PDM)	Samir Parikh	Program Delivery Director
IT Finance	Michelle Harris	Manager
IT Regulatory	Dan DeMauro	Director
Digital Risk and Security (DR&S)	Elaine Wilson	Director
Service Delivery	Mark Mirizio	Manager
Enterprise Architecture	Joe Clinchot	Director

3.12.2 Reviewers

The reviewers have provided feedback on the content/language of the paper.

Function	Individual
Regulatory	Harvey, Maria
Jurisdictional Delegate - Electric NE	Easterly, Patricia
Jurisdictional Delegate - Electric NY	Harbaugh, Mark A.
Jurisdictional Delegate - FERC	Hill, Terron
Jurisdictional Delegate - Gas NE	Currie, John
Jurisdictional Delegate - Gas NY	Wolf, Don
Procurement	Chevere, Diego



US Sanction Paper

4 Appendices

4.1 Sanction Request Breakdown by Project

N/A

4.2 Project Cost Breakdown

Project Cost Breakdown \$ (millions)					
Cost Category	sub-category	Value of Work to Date (VOWD)	Forecast to Complete (FTC)	Forecast At Completion (FAC=VOWD+FTC)	Name of Firm(s) providing resources
Personnel	NG Resources		0.342	0.342	
	SDC Time & Materials		-	-	IBM
			0.049	0.049	WiPro
			-	-	DXC
			-	-	Verizon
	SDC Fixed-Price		0.027	0.027	IBM
			-	-	WiPro
			-	-	DXC
			-	-	Verizon
	All other personnel		4.613	4.613	KPMG, PowerPlan, Arc Two
	TOTAL Personnel Costs	-	5.031	5.031	
Hardware	Purchase		-	-	
	Lease		-	-	
Software			0.029	0.029	
Risk Margin			-	-	
AFUDC			0.206	0.206	
Other			0.355	0.355	
TOTAL Costs		-	5.621	5.621	



US Sanction Paper

4.3 Benefiting Operating Companies

Benefiting Operating Companies	Business Area	State
Niagara Mohawk Power Corp.- Electric Distr.	Electric Distribution	NY
Massachusetts Electric Company	Electric Distribution	MA
KeySpan Energy Delivery New York	Gas Distribution	NY
KeySpan Energy Delivery Long Island	Gas Distribution	NY
Boston Gas Company	Gas Distribution	MA
Narragansett Electric Company	Electric Distribution	RI
Niagara Mohawk Power Corp. - Transmission	Transmission	NY
Niagara Mohawk Power Corp. - Gas	Gas Distribution	NY
New England Power Company – Transmission	Transmission	MA, NH, RI, VT
KeySpan Generation LLC (PSA)	Generation	NY
Narragansett Gas Company	Gas Distribution	RI
Colonial Gas Company	Gas Distribution	MA
Narragansett Electric Company – Transmission	Transmission	RI
National Grid USA Parent	Parent Company	
Nantucket Electric Company	Electric Distribution	MA
NE Hydro - Trans Electric Co.	Inter Connector	MA,NH
KeySpan Energy Development Corporation	Non-Regulated	NY
KeySpan Port Jefferson Energy Center	Generation	NY
KeySpan Services Inc. Service Company	Service Company	
KeySpan Glenwood Energy Center	Generation	NY
Massachusetts Electric Company – Transmission	Transmission	MA
NG LNG LP Regulated Entity	Gas Distribution	MA, NY, RI
KeySpan Energy Corp. Service Company	Service Company	



US Sanction Paper

4.4 IT Ongoing Operational Costs (RTB):

This project will potentially increase IT ongoing operations support costs as per the following table. These are also known as Run the Business (RTB) costs. The values showing below are preliminary and will be reviewed further during Requirements and Design phase.

The increase of RTB is caused by the need to run two instances (old and new) of lease modules in parallel. Phase 2 of this initiative, planned for FY20, will turn off existing lease module.

All figures in \$ thousands	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Total
	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	
Last Sanctioned Net Impact to RTB						
Last Sanction IS Net Impact to RTB						-
Last Sanction Business Net Impact to RTB						-
Last Sanction Total Net Impact to RTB	-	-	-	-	-	-
Planned/Budgeted Net Impact to RTB						
IS Investment Plan Net Impact to RTB						-
Business Budgeted Net Impact to RTB						-
Currently Forecasted Net Impact to RTB						
IS Funded Net Impact to RTB Forecasted at Go-Live	358.8	478.4	34.4	34.4	34.4	940.4
Business Funded Net Impact to RTB Forecasted at Go-Live	-	-	-	-	-	-
Variance to Planned/Budgeted Net Impact to RTB						
IS Investment Plan Net Impact to RTB Variance	(358.8)	(478.4)	(34.4)	(34.4)	(34.4)	(940.4)
Business Budgeted Net Impact to RTB Variance	-	-	-	-	-	-

4.5 NPV Summary (if applicable)

N/A

4.6 Customer Outreach Plan

N/A

Long: US Sanction Paper

Title:	Annual HR Service Pack Upgrade FY20	Sanction Paper #:	USSC-19-302
Project #:	INVP 5379	Sanction Type:	Partial Sanction
Capex #:	S008065		
Operating Company:	National Grid USA Svc. Co.	Date of Request:	7/2/2019
Author:	Weisbord, Ella	Sponsor(s):	McConnachie, Chris VP Fin Svcs Fnnc & Risk Ldrshp
Utility Service:	IT	Project Manager:	Parikh, Samir

Executive Summary

This paper requests Partial Sanction of INVP 5379 in the amount of \$0.569M with a tolerance of +/-10% for the purposes of Requirements and Design.

This sanction amount is \$0.569M broken down into:

- \$0.224M Capex
- \$0.345M Opex
- \$0.000M Removal

NOTE the potential investment of \$1.553M with a tolerance of +/-25%, contingent upon submittal and approval of a Project Sanction paper following completion of Requirements and Design.

Project Summary

This project provides a funding base and governance structure that allows the Information Technology (IT) organization to effectively deliver needed updates to the US SAP application portfolio in order to comply with federal, state, and local government requirements.

Background

SAP releases an annual support pack update for components of its HR modules.
Required updates include the following:

- Tax changes
- Payroll modifications
- Legal and regulatory reporting changes
- Considerations required to produce year end employee wage statements (W2's)
- Tax table changes for correctly processing payroll and required earnings withholdings
- Revised tax withholding tables

- New annual maximum withholding requirements
- All associated legal and regulatory compliance or reporting considerations for employee and Company labor governmental reporting

The annual HR support packs contain updates for the close out Quarterly Employer Tax Reporting and current calendar year reporting cycle and for staging the requisite changes for the subsequent calendar year reporting cycle.

These are mandatory annual changes requested by Federal and State agencies, such as the Internal Revenue Service (IRS) and various State Departments of Finance, as well as different municipalities. These changes must be applied to the SAP core solution in order to properly reflect employee wages, employee and Company withholdings, legal requirements and to comply with Federal and State regulatory reporting.

To apply the required changes in a more agile manner and avoid any potential year end complication, National Grid plans to apply the service pack updates this year twice - at the end of summer and in December.

Project Description

The annual HR SAP Support packs increase system reliability by applying upgrade service packs provided by SAP on a regular basis following the vendor recommended schedule. The project will ensure the upgrades are applied to the National Grid US SAP environment by following the IS delivery process and best practices, and overseeing necessary testing (modular and integration) as well as providing overall governance for the upgrades.

Summary of Benefits

The project is intended to implement and comply with mandatory federal and state regulatory and legal changes. For example, new tax tables and any new changes to employer tax reporting are achieved through applying these HR support packs. The anticipated benefits of upgrading from current patch level to the new patch level or applying the HR support pack are listed below.

- Produce weekly, monthly and special payroll runs
- Ensure correct federal and state withholdings and legal reporting requirements
- Provide a more stable and reliable core SAP solution
- Reduce need for incident resolution and associated patches
- Provide an opportunity to eliminate and reduce custom code for changes
- Allow for faster SAP vendor resolution times for production incidents/issues

Business and Customer Issues

There are no significant business or customer issues beyond what has been described elsewhere.

Alternatives

<i>Number</i>	<i>Title</i>
1	Defer project / Do Nothing
	This option is not viable as the upgrades are mandatory to comply with changes to federal and state laws and regulations

Related Projects, Scoring and Budget

Summary of Projects

<i>Project Number</i>	<i>Project Type</i> (Elec only)	<i>Project Title</i>	<i>Estimate Amount(\$M)</i>
N/A-single ...		Annual HR Service Pack Upgrade FY20	1.553
Total:			1.553

Associated Projects

<i>Project Number</i>	<i>Project Title</i>	<i>Estimate Amount (\$M)</i>
N/A		0.000

Prior Sanctioning History

<i>Date</i>	<i>Governance Body</i>	<i>Sanctioned Amount</i>	<i>Potential Project Investment</i>	<i>Sanction Type</i>	<i>Sanction Paper</i>	<i>Potential Investment Tolerance</i>
N/A						

Key Milestones

<i>Milestone</i>	<i>Date (Month / Year)</i>
Project Sanction	March, 2019
Partial Sanction	July, 2019
Begin Requirements and Design	July, 2019
Project Sanction	September, 2019
Move to Production / Final Go Live	December, 2019
Project Closure Sanction	April, 2020

Next Planned Sanction

<i>Date (Month/Year)</i>	<i>Purpose of Sanction Review</i>
September, 2019	Project Sanction

Category

Category	Reference to Mandate, Policy, NPV, or Other
<input checked="" type="radio"/> Mandatory	This project funds budget to ensure timely delivery of upgrade components for the HR modules which include the required tax, payroll, legal, and regulatory reporting changes throughout the year to comply with federal, state and local government requirements.
<input type="radio"/> Policy-Driven	
<input type="radio"/> Justified NPV	

Asset Management Risk Score:

PRIMARY RISK SCORE DRIVER

☐ Reliability ☐ Environment ☐ Health & Safety ☒ Not Policy Driven

Complexity Level: 16

☐ High Complexity ☐ Medium Complexity ☒ Low Complexity ☐ N/A

Process Hazard Assessment

A Process Hazard Assessment (PHA) is required for this project: ☐ Yes ☒ No

Current Planning Horizon

Capex	0.000	1.156	0.000	0.000	0.000	0.000	0.000	1.156
Opex	0.000	0.397	0.000	0.000	0.000	0.000	0.000	0.397
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	1.553	0.000	0.000	0.000	0.000	0.000	1.553

Resources, Operations, & Procurement

RESOURCE SOURCING

Engineering & design Resources to be provided	<input checked="" type="checkbox"/> Internal	<input type="checkbox"/> Contractor
Construction/Implementation Resources to be provided	<input checked="" type="checkbox"/> Internal	<input checked="" type="checkbox"/> Contractor

RESOURCE DELIVERY

Availability of internal resources to delivery project:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
Availability of external resources to delivery project:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green

OPERATIONAL IMPACT

Outage impact on network system	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
------------------------------------	---------------------------	-----------------------------	--

PROCUREMENT IMPACT

Procurement impact on network system:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
--	---------------------------	-----------------------------	--

Key Issues

N/A

Climate Change

Contribution to National Grid's
2050 80% emissions reduction
target: ☒ Neutral ☐ Positive ☐ Negative

Impact on adaptability of network
for future climate change: ☒ Neutral ☐ Positive ☐ Negative

List References

N/A

Permitting

N/A

Investment Recovery and Customer Impact

Investment Recovery

Recovery will occur at the time of the next rate case for any operating company receiving allocations of these costs.

Customer Impact

N/A

Execution Risk Appraisal

Risk Breakdown Structure Category	Qualitative Assessment / Risk Response Strategy					Risk Score
	Risk ID + Title	IF Statement	THEN Statement	Risk Response Strategy		
1. Project Requirements	R1 - Impact from FIT migration	IF FIT schedules changes go-live date	Then HRSP summer release should be done in T-Sys	Mitigate	Risk Response / Action	15

Business Plan

<i>Business Plan Name & Period (BP 18)</i>	<i>Project Included in approved Business Plan?</i>	<i>(Over) / Under Business Plan</i>	<i>Project Cost relative to approved Business Plan (\$M)</i>
IT Investment Plan FY20-24	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Over <input type="radio"/> Under <input checked="" type="radio"/> N/A	0.000

If Cost > Approved

if costs > approved Business Plan how will this be funded?

N/A

Drivers

The primary driver is to comply with mandatory federal and state changes to laws and regulations in order to properly reflect employee wages, employee and Company tax withholdings, legal requirements and to comply with regulatory reporting.

CIAC Reimbursement

N/A

Cost Summary Table

Project Number	N/A-single project	Project Title	Annual HR Service Pack Upgrade FY20					Project Estimate Level
Spend	Prior Yrs	Yr 1 2020	Yr 2 2021	Yr 3 2022	Yr 4 2023	Yr 5 2024	Yr 6 2025	Total
Capex	0.000	1.156	0.000	0.000	0.000	0.000	0.000	1.156
Opex	0.000	0.397	0.000	0.000	0.000	0.000	0.000	0.397
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	1.553	0.000	0.000	0.000	0.000	0.000	1.553

Total Project Sanction

Capex	0.000	1.156	0.000	0.000	0.000	0.000	0.000	1.156
Opex	0.000	0.397	0.000	0.000	0.000	0.000	0.000	0.397
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	1.553	0.000	0.000	0.000	0.000	0.000	1.553

Project Costs per Business Plan

\$M	Prior Yrs	Yr 1 2020	Yr 2 2021	Yr 3 2022	Yr 4 2023	Yr 5 2024	Yr 6 2025	Total
Capex	0.000	1.156	0.000	0.000	0.000	0.000	0.000	1.156
Opex	0.000	0.397	0.000	0.000	0.000	0.000	0.000	0.397
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Cost in Bus. Plan	0.000	1.553	0.000	0.000	0.000	0.000	0.000	1.553

Variance

\$M	Prior Yrs	Yr 1 2020	Yr 2 2021	Yr 3 2022	Yr 4 2023	Yr 5 2024	Yr 6 2025	Total
Capex	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Opex	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Variance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Sanction Request Breakdown by Project

Project Number	Capex	Opex	Removal	Total
N/A-single project				0.000

Cost Assumptions

The accuracy level of estimate for each project is identified in the Cost Summary Table

Net Present Value / Cost Benefit Analysis

N/A

NPV Assumptions & Calculations

N/A

Additional Impacts

N/A

Statement of Support

Department	Individual	Responsibilities
Business Department	LaVeck, Thomas	Business Representative
Business Partner (BP)	Semel, Joel	Relationship Manager
Program Delivery Management (PDM)	Parikh, Samir	Program Delivery Director
IT Finance	Harris, Michelle	Manager
IT Regulatory	DeMauro, Daniel J.	Director
Digital Risk and Security (DR&S)	Wilson, Elaine	Director
Service Delivery	Mirizio, Mark	Principal Analyst
ARB Verification	Holland, Sean	Manager
Enterprise Portfolio Management	Cronin, Daniel	Analyst

Reviewers

Function	Individual
Regulatory	Mancinelli, Lauri A.
Jurisdictional Delegate - Electric NE	Easterly, Patricia
Jurisdictional Delegate - Electric NY	Harbaugh, Mark A.
Jurisdictional Delegate - FERC	Hill, Terron
Jurisdictional Delegate - Gas NE	Smith, Amy
Jurisdictional Delegate - Gas NY	Wolf, Don
Procurement	Chevere, Diego

Decisions

I:

(a) APPROVE the investment of \$0.569M and a tolerance of +/-10% for Requirements and Design.

(b) NOTED the potential investment of \$1.553M and a tolerance of +/-25%%, contingent upon submittal and approval of a Project Sanction paper following completion of final engineering and design.

(c) NOTED that Parikh, Samir has the approved financial delegation to undertake the activities stated in (a).

Signature _____

Date _____

Christine McClure, Vice President, Finance Business Partner Service Company, USSC Chair

Appendix

COST BREAKDOWN STRUCTURE

Project Cost Breakdown \$ (millions)					
Cost Category	sub-category	Value of Work to Date (VOWD)	Forecast to Complete (FTC)	Forecast At Completion (FAC=VOWD+FTC)	Name of Firm(s) providing resources
Personnel	NG Resources		0.324	0.324	
	SDC Time & Materials		0.021	0.021	IBM
			-	-	WiPro
			-	-	DXC
			-	-	Verizon
	SDC Fixed-Price		-	-	IBM
			0.760	0.760	WiPro
			-	-	DXC
			-	-	Verizon
	All other personnel		0.018	0.018	
	TOTAL Personnel Costs	-	1.123	1.123	
Hardware	Purchase		-	-	
	Lease		-	-	
Software			-	-	
Risk Margin			0.146	0.146	
AFUDC			0.023	0.023	
Other			0.261	0.261	
TOTAL Costs		-	1.553	1.553	

VENDOR / SUPPLIER BREAKDOWN

Vendor	\$ millions		
	VOWD	FTC	FAC=VOWD+FTC
IBM	0.000	0.021	0.021
WiPro	0.000	0.760	0.760

DXC	0.000	0.000	0.000
Verizon	0.000	0.000	0.000
Other	0.000	0.000	0.000
FIT	0.000	0.246	0.246
FDM	0.000	0.018	0.018
User Defined #3	0.000	0.000	0.000
User Defined #4	0.000	0.000	0.000
User Defined #5	0.000	0.000	0.000

NG Resources	0.000	0.324	0.324
AFUDC	0.000	0.023	0.023
Risk		0.146	0.146
Shared Overhead		0.015	0.015
Total	0.000	1.553	1.553
Variance to Proj Cost Breakdown	0.000	0.000	0.000

BENEFITING OPERATING COMPANIES

Benefiting Operating Companies	Business Area	State
Niagara Mohawk Power Corp.- Electric Distr.	Electric Distribution	NY
Massachusetts Electric Company	Electric Distribution	MA
KeySpan Energy Delivery New York	Gas Distribution	NY
KeySpan Energy Delivery Long Island	Gas Distribution	NY
Boston Gas Company	Gas Distribution	MA
Narragansett Electric Company	Electric Distribution	RI
Niagara Mohawk Power Corp. - Transmission	Transmission	NY
Niagara Mohawk Power Corp. - Gas	Gas Distribution	NY
New England Power Company – Transmission	Transmission	MA, NH, RI, VT
KeySpan Generation LLC (PSA)	Generation	NY
Narragansett Gas Company	Gas Distribution	RI
Colonial Gas Company	Gas Distribution	MA
Narragansett Electric Company – Transmission	Transmission	RI
National Grid USA Parent	Parent Company	
Nantucket Electric Company	Electric Distribution	MA
NE Hydro - Trans Electric Co.	Inter Connector	MA,NH
KeySpan Energy Development Corporation	Non-Regulated	NY
KeySpan Port Jefferson Energy Center	Generation	NY
New England Hydro - Trans Corp.	Inter Connector	MA, NH
KeySpan Services Inc. Service Company	Service Company	
KeySpan Glenwood Energy Center	Generation	NY
Massachusetts Electric Company – Transmission	Transmission	MA
NG LNG LP Regulated Entity	Gas Distribution	MA, NY, RI
Transgas Inc	Non-Regulated	NY
Keyspan Energy Trading Services	Other	NY
KeySpan Energy Corp. Service Company	Service Company	
New England Electric Trans Corp	Inter Connector	MA
New England Electric Trans Corp	InterConnector	MA

RTB TABLE

N/A

Short: US Sanction Paper

Title:	Customer Operational Enhancements FY20	Sanction Paper #:	
Project #:	INVP 5383	Sanction Type:	Sanction
Capex #:			
Operating Company:	National Grid USA Svc. Co.	Date of Request:	4/23/2019
Author:	Olesker, Michael	Sponsor:	Sobolewski, Terence Snr VP Customer Ops
Utility Service:	IT	Project Manager:	Daly, Orla

Executive Summary

This paper requests Sanction of 5383 in the amount of \$0.310M with a tolerance of +/-10% for the purposes of Full Implementation.

This sanction amount is \$0.310M broken down into:

- \$0.000M Capex
- \$0.310M Opex
- \$0.000M Removal

Project Summary

This project provides a funding base and governance structure that allows the IT organization to effectively deliver small system changes to the Customer application portfolio, in response to any regulatory mandates, operational requirements and value-added enhancements that will occur during the course of the year. Enhancements funded by this project will support the Customer Operation's organization.

Background

Over the course of any year, numerous regulatory, operational requirements and enhancement requests arise, sometimes with little notice. Some of these needs can be addressed with relatively low-dollar-value solutions. In order to develop and implement such solutions, the IS organization must be able to execute small-scale initiatives quickly and effectively. The project provides a funding base and governance structure that allows the organization to:

- Respond quickly and effectively to ad hoc demands and change requests which typically arise when there is either:
 - An urgent, mandatory imperative, to meet a new requirement/order by our regulators (PSC, DPU, PUC, FERC)
 - Operational changes to bring the systems back into compliance
 - An enhancement request that will add value to National Grid (i.e. reduction in costs by automating a manual process, etc.)
- Assess numerous low-dollar-value initiatives without placing undue burden on the sanctioning process
- Create a channel through which IS can give due consideration to important, low-dollar-value initiatives.

Project Descriptions

The requests approved under this project will each require less than \$30K (typically, substantially less) and will represent a mix of mandatory, operational and value-added enhancement initiatives. Requests

exceeding \$30K or resulting in any incremental RTB will be required to follow the project governance path for projects greater than or equal to \$30,000 and less than \$100,000.

An Approval Committee, composed of leaders from IS and the Business, will oversee project prioritization for approval, based on assessment of priority and available funding. The Committee will approve or deny requests based on their assessment.

The Approval Committee will:

- * Evaluate requests with an understanding that the budget must be allocated wisely because the number and value of requests usually far exceed available funds.

- * Assess requests based on their quality, urgency, regulatory attributes, and value to the company and its stakeholders.

A report will be presented at Project Board Meeting to review the status of requests. Any associated issues related to benefits or Run-The-Business (RTB) implications will be addressed at this meeting and with the IT Service Delivery organization.

Summary of Benefits

The requests worked under this project are expected to contribute to improved system reliability and business functionality, fulfill the organization's operating requirements, and comply with regulatory mandates.

Business and Customer Issues

There are no significant business or customer issues beyond what has been described elsewhere.

Alternatives

<i>Number</i>	<i>Title</i>
1	Defer or Reject the Project . This is not a viable solution because this course of action would mean that all agreed requests would require individual Investment Proposals. Valuable IS and Business resources would be diverted to administrative activities supporting sanction papers for multiple low-dollar-value schemes. In addition, the Business would lose the ability to implement important requests quickly and effectively, which would result in misalignment between business processes and supporting systems
2	Sanction and Fund Minor Works on a Less-than-Annual Basis Sanctioning the spend for minor works on a more frequent basis (i.e. quarterly or semi-annual basis) would defeat the flexibility provided by the annual process. Although this would enable each sanctioning request to be of lower dollar value, it would not align with National Grid's annual budgeting process. It would also create additional administrative burdens and reduce the flexibility of the Steering Committee's selection process. Perhaps most importantly, the additional oversight seems to be of little, if any, benefit in this case.

Key Milestones

<i>Milestone</i>	<i>Date (Month / Year)</i>
Start Up	April, 2019
Project Sanction	April, 2019
Move to Production / Final Go Live	March, 2020
Project Closure Sanction	July, 2020

Next Planned Sanction

<i>Date (Month/Year)</i>	<i>Purpose of Sanction Review</i>
July, 2020	Closure

Category

<i>Category</i>	<i>Reference to Mandate, Policy, NPV, or Other</i>
-----------------	--

- ☐ Mandatory
☒ Policy-Driven
☐ Justified NPV
☐ Other

This Minor Works investment is best characterized as a Policy-Driven initiative. However, individual requests that fall under its umbrella may be categorized as 'Mandatory,' 'Policy-Driven', 'Justified NPV' or 'Other' depending on individual circumstances of each request.

Asset Management Risk Score

Asset Management Risk Score: 49

PRIMARY RISK SCORE DRIVER

- ☒ Reliability ☐ Environment ☐ Health & Safety ☐ Not Policy Driven

Complexity Level

- ☐ High Complexity ☐ Medium Complexity ☐ Low Complexity ☐ N/A

Complexity Score: 14

Investment Recovery and Customer Impact

Investment Recovery

Recovery will occur at the time of the next rate case for any operating company receiving allocations of these costs.

Drivers

The project is driven by the IT department's need to respond quickly and effectively to the numerous regulatory, operational and value-added needs that arise over the course of any given year, within the Customer related Systems.

Statement of Support

Department	Individual	Responsibilities
Business Department	Sobolewski, Terence	Business Representative
Business Partner (BP)	Daly, Orla	Relationship Manager
Program Delivery Management (PDM)	Mcnaught, Michelle	Program Delivery Director
IT Finance	Harris, Michelle	Manager
IT Regulatory	Gill, Thomas F.	Manager
Digital Risk and Security (DR&S)	Shattuck, Peter	Manager
Service Delivery	Mirizio, Mark	Manager
Enterprise Architecture	Clinchot, Joseph J.	Director

Decisions

Recommendations

The Sanctioning Authority is invited to:

- A) APPROVE the investment of \$0.310M including risk margin of \$0.031M
- B) APPROVE the run-the-business (RTB) of \$0M for 5 years.
- C) NOTE that Sobolewski, Terence, Snr VP Customer Ops is the Project Sponsor
- D) NOTE that Daly, Orla, is the Project Manager and has the approved financial delegation to deliver the project

Decision of the Sanctioning Authority

I hereby approve the recommendations made in this paper.

Signature  Date 4/22/19

Daly, Orla

Appendix

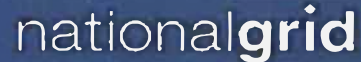
BENEFITTING COMPANIES

Company Name	SAP Co.	SAP Seg	Jurisdiction	BU
Niagara Mohawk Power Corp.- Electric Distr.	5210	NYELEC	NY	Electric
Niagara Mohawk Power Corp. - Gas	5210	NYGASD	NY	Gas
KeySpan Energy Delivery New York	5220	NYGASD	NY	Gas
KeySpan Energy Delivery Long Island	5230	NYGASD	NY	Gas
Massachusetts Electric Company	5310	MAELEC	MA	Electric
Nantucket Electric Company	5320	MAELEC	MA	Electric
Boston Gas Company	5330	MAGASD	MA	Gas
Colonial Gas Company	5340	MAGASD	MA	Gas
Narragansett Electric Company	5360	RIELEC	RI	Electric
Narragansett Gas Company	5360	RIGASD	RI	Gas

COST BREAKDOWN

Project Cost Breakdown \$ (millions)					
Cost Category	sub-category	Value of Work to Date (VOWD)	Forecast to Complete (FTC)	Forecast At Completion (FAC=VOWD+ FTC)	Name of Firm(s) providing resources
Personnel	NG Resources		-	-	
	SDC Time & Materials		-	-	IBM
			-	-	WiPro
			-	-	DXC
			-	-	Verizon
	SDC Fixed-Price		0.230	0.230	IBM
			0.060	0.060	WiPro
			-	-	DXC
			-	-	Verizon
	All other personnel		0.020	0.020	
	TOTAL Personnel Costs	-	0.310	0.310	
Hardware	Purchase		-	-	
	Lease		-	-	

Software		-	-	
Risk Margin		-	-	
AFUDC		-	-	
Other		-	-	
TOTAL Costs	-	0.310	0.310	



Short: US Sanction Paper

Title:	Electric Field Crew iPad Time Entry and Basic Capability - NY	Sanction Paper #:	
Project #:	INVP 5385	Sanction Type:	Sanction
Capex #:			
Operating Company:	National Grid USA Svc. Co.	Date of Request:	4/23/2019
Author:	McDermott, Martin J.	Sponsor:	McAfee, Keith P. VP Electric Field Ops New York
Utility Service:	IT	Project Manager:	Costanzo, Craig J.

Executive Summary

This paper requests Sanction of 5385 in the amount of \$0.820M with a tolerance of +/-10% for the purposes of Full Implementation.

This sanction amount is \$0.820M broken down into:

- \$0.697M Capex
- \$0.123M Opex
- \$0.000M Removal

Project Summary

This investment will support the Business need to train, roll-out and support the Fiori (remote time entry) and iPad base capability effort for the Electric Field Crew Chiefs in New York. This will allow the crew chiefs in the field to enter time for their crews, replacing the manual paper process. Base capabilities will also be introduced which will provide the field access to standards, maps, safety documents, Standard operating Procedures (SOP) and facility diagrams to assist the crews in the performance of their duties. This effort is expected to cover approximately 700 crew chiefs/leads.

Background

An effort was undertaken to develop mobile applications and provide tools for employees to have remote access to National Grid systems while in the field. As part of the development a Fiori (Time Entry) application, which allow field crews to enter their time remotely, was created and piloted on iPads. The old process is a manual paper process with clerks reviewing and entering time from time sheets on behalf of the crews. Additionally efforts were underway to provide remote access to manuals, operating procedures, safety information, maps/record and facilities on the iPads.

A pilot was undertaken to utilize the new tools on the iPad in the field, at the crew chief level, to determine the acceptance and effectiveness. The pilot was well received with the iPad and functionality proving to be a valuable tool in the field. Based on the success of the pilot it was determined that the functionality should be introduced universally to the New York Electric crew chiefs.

Project Descriptions

As part of the Fiori effort approximately 700 iPad had been procured for New York Electric crew chief time entry, this project will properly configure, roll-out, train and support the iPads - as well as provide additional functionality currently available (including Standards, Maps, Safety Documents, SOP). It has been discussed

that it would be counterproductive to provide an iPad for simply time entry without also enabling other available capabilities to assist the crews in the field.

The tools provided include VMWare's Enterprise Mobile Manager, remote access to National Grid Infonet, access to Maps and records, Standard Operating Procedures (SOP), Manuals and Safety information, along with additional channels of communication. The devices will be shared within the crew as needed.

Summary of Benefits

This project will help drive the replacement of a manual paper process for the capture and entry of field crew time leading to increased accuracy, reduce delays and improve efficiencies for field crew time capture. A suite of tools will be introduced which will allow the field to remotely access the latest standards and operating manuals reducing the need to print paper and carry paper copies in the trucks. Crews will have remote access to Maps, facility records and safety information improving improved awareness and safety in the field.

Business and Customer Issues

There are no significant business or customer issues beyond what has been described elsewhere.

Alternatives

<i>Number</i>	<i>Title</i>
1	Do nothing. The current manual time entry process is labor intensive, paper based and does not lead to timely reporting. Additionally paper manuals in the trucks can get out of date and expensive to produce, keep current and distribute. Doing nothing is not a viable option with the piloted technology proven and available.
2	Delay the investment, Delaying the investment would not be prudent at this time, the devices are currently available, ready to be configured and rolled out. The project team has also been identified and is currently available, a delay would lead to higher costs and run into a resource constraint.
3	Expand deployment to include advanced capabilities on the iPad for crew chiefs. Currently National Grid is working to roll-out advanced capabilities to field supervisors, an option would be to increase the scope of this investment to move beyond Time Entry and Base capabilities to also include Advanced capabilities for the crew chiefs. This option was rejected as part of this investment due to the varied needs of crews vs. supervisors, increased cost and training requirements which would delay full implementation. Additionally functionality for field crew chiefs will be reviewed as part of future investments as the field gains experience on the tool and as new capabilities are determined.

Key Milestones

<i>Milestone</i>	<i>Date (Month / Year)</i>
Start Up	April, 2019
Project Sanction	April, 2019
Begin Requirements and Design	April, 2019
Begin Development and Implementation	May, 2019
Move to Production / Final Go Live	November, 2019
Project Closure Sanction	February, 2020
Next Planned Sanction	
Date (Month/Year)	Purpose of Sanction Review
February, 2020	Closure

Category

Category	Reference to Mandate, Policy, NPV, or Other
<input type="radio"/> Mandatory	Provide field crews the tools to effectively and safely perform their duties while replacing manual paper process.
<input type="radio"/> Policy-Driven	
<input type="radio"/> Justified NPV	
<input checked="" type="radio"/> Other	

Asset Management Risk Score: 39

PRIMARY RISK SCORE DRIVER

☐ Reliability ☐ Environment ☐ Health & Safety ☒ Not Policy Driven

Complexity Level: 12

☐ High Complexity ☐ Medium Complexity ☐ Low Complexity ☐ N/A

Investment Recovery and Customer Impact

Investment Recovery

Recovery will occur at the time of the next rate case for any operating company receiving allocations of these costs.

Drivers

Replace manual paper base time entry for NY Electric field crew leading to more timely, accurate time reporting.

Provide the field crews access to electronic versions of the work standards, manuals and safety briefs to ensure they have the latest approved information.

Provide maps, records and facilities to field personnel to improve safety and awareness.

Statement of Support

Department	Individual	Responsibilities
Business Department	Darjany, Daniel J.	Business Representative
Business Partner (BP)	Lorkiewicz, Robert J.	Relationship Manager
Program Delivery Management (PDM)	Dailey, Jeffrey	Program Delivery Director
IT Finance	Harris, Michelle	Manager
IT Regulatory	Gill, Thomas F.	Manager
Digital Risk and Security (DR&S)	Wilson, Elaine	Director
Service Delivery	Mirizio, Mark	Manager
Enterprise Architecture	Lyba, Svetlana	Director

Decisions

Recommendations

The Sanctioning Authority is invited to:

- A) APPROVE the investment of \$0.820M including risk margin of \$0.082M
- B) APPROVE the run-the-business (RTB) of \$0.071M for 5 years.
- C) NOTE that McAfee, Keith P., VP Electric Field Ops New York is the Project Sponsor
- D) NOTE that Costanzo, Craig J., is the Project Manager and has the approved financial delegation to deliver the project

Decision of the Sanctioning Authority

I hereby approve the recommendations made in this paper.

Signature  Date _____

05/21/19
Premjit Singh

VP IT Tower Lead - Gas Business Partner

Appendix

COST BREAKDOWN STRUCTURE:

Project Costs [\$M]	Prior FYs	FY 1 19/20	FY 2 20/21	FY 3 21/22	FY 4 22/23	FY 5 23/24
Start-Up OPEX	-	0.016	-	-	-	-
Start-Up CAPEX	-	(0.001)	-	-	-	-
Start-Up - Risk OPEX	-	0.002	-	-	-	-
Start-Up - Risk CAPEX	-	0.001	-	-	-	-
Start-Up SUBTOTAL	-	0.018	-	-	-	-
R&D OPEX	-	0.016	-	-	-	-
R&D CAPEX	-	0.053	-	-	-	-
R&D Risk OPEX	-	0.002	-	-	-	-
R&D Risk CAPEX	-	0.005	-	-	-	-
R&D SUBTOTAL	-	0.075	-	-	-	-
Development & Implementation – OPEX						
People	-	0.008	-	-	-	-
Software	-	0.071	-	-	-	-
Hardware	-	-	-	-	-	-
Other	-	0.001	-	-	-	-
Risk Margin	-	0.007	-	-	-	-
Development & Implementation – CAPEX						
People	-	0.510	-	-	-	-
Software	-	0.043	-	-	-	-
Hardware	-	-	-	-	-	-
AFUDC	-	0.015	-	-	-	-
Other	-	0.005	-	-	-	-
Risk Margin	-	0.055	-	-	-	-
D&I SUBTOTAL	-	0.715	-	-	-	-
Total Project Opex	-	0.123	-	-	-	-
Total Project Capex	-	0.686	-	-	-	-
Total Project Cost	-	0.808	-	-	-	-
Non-regulated project UPLIFT	-	-	-	-	-	-
Non-regulated project TOTAL	-	-	-	-	-	-
IS Investment Plan FY 19/20 Thru FY 24/25						
Budget OPEX	-	-	-	-	-	-
Budget CAPEX	-	-	-	-	-	-
Total Budget Cost	-	-	-	-	-	-

Total Cost Variance						
Total Variance Opex	-	(0.123)	-	-	-	-
Total Variance Capex	-	(0.686)	-	-	-	-
Total Variance Cost	-	(0.808)	-	-	-	-
Impact on RTB costs		-	0.071	0.071	0.071	0.071

BENEFITTING COMPANIES:

Company Name	SAP Co.	SAP Seg	Jurisdiction	BU
Niagara Mohawk Power Corp.- Electric Distr.	5210	NYELEC	NY	Electric
Niagara Mohawk Power Corp. - Transmission	5210	NYTRAN	NY	Transmission



Long: US Sanction Paper

Title:	US SAP: Infrastructure Landscape - FY20	Sanction Paper #:	USSC-19-293
Project #:	INVP 5392	Sanction Type:	Partial Sanction
Capex #:	S008045		
Operating Company:	National Grid USA Svc. Co.	Date of Request:	6/18/2019
Author:	Weisbord, Ella	Sponsor:	Devireddy, Narayan Vice President, Global Delivery, Informa
Utility Service:	IT	Project Manager:	Parikh, Samir

Executive Summary

This paper requests Partial Sanction of INVP 5392 in the amount of \$2.700M with a tolerance of +/-10% for the purposes of Requirements and Design.

This sanction amount is \$2.700M broken down into:

- \$2.100M Capex
- \$0.600M Opex
- \$0.000M Removal

NOTE the potential investment of \$3.159M with a tolerance of +/-25, contingent upon submittal and approval of a Project Sanction paper following completion of Requirements and Design.

Project Summary

This project will create / refresh non-production environments used for project development in support of initiatives pertaining to the SAP portfolio.

Background

Procuring, setting and configuring project environments is a critical path task for SAP related projects and initiatives. These activities can be time consuming and costly when done in isolation. To improve IT project implementation schedules, National Grid IT introduced a new process in FY18 to provide annual funding at the beginning of each fiscal year to procure and configure a set of project environments to support all initiatives within the SAP portfolio for that fiscal year.

Appropriate costs will be allocated from this project directly to the individual SAP projects that use the environments throughout the fiscal year. Individual work orders and sanction will be obtained for each SAP project that utilizes these environments. This reclassification of charges will occur at 2 times throughout the fiscal year. 1) When a project goes live into production 2) At year end

Project Descriptions

As part of this project, the following activities will be implemented:

- Complete design assessment to determine a permanent set of critical SAP project environments that will require further extension
- Review with new vendor the processes to set non-production environments

Summary of Benefits

This project is intended to support mandated projects by:

- Reducing the lead time to start projects and initiatives within the portfolio
- Increasing accuracy of cost estimates
- Alleviating project startup bottlenecks
- Increasing reliability for SAP related project delivery
- Reducing one-time capex startup costs associated with standing up new environments for each project

Business and Customer Issues

There are no significant business or customer issues beyond what has been described elsewhere.

Alternatives

<i>Number</i>	<i>Title</i>
1	Defer projects / Do Nothing This option will not address the business need for project environments to efficiently support initiatives in the SAP portfolio. Indicative Cost: N/A
2	Address every SAP portfolio project needs individually This "unbundled" option, which was used in the past, will negatively impact each project within portfolio by increasing the lead time to start each initiative, add cost and complexity for portfolio management and overall delivery cycle. Indicative Cost: N/A.

Related Projects, Scoring and Budget

Summary of Projects

<i>Project Number</i>	<i>Project Type (Elec only)</i>	<i>Project Title</i>	<i>Estimate Amount(\$M)</i>
5392		US SAP: Infrastructure Landscape FY20	3.159
Total:			3.159

Associated Projects

<i>Project Number</i>	<i>Project Title</i>	<i>Estimate Amount (\$M)</i>
4563	US SAP: FERC on HANA (FOH) Upgrade	
4572	Gas Business Enablement	
5360	Lease Accounting Updates and Contract Management	
5379	Annual HR Service Pack Upgrade FY20	
4562	US SAP: Business Warehouse (BW) Consolidation to HANA Enterprise Cl...	
5497	Lease Accounting Updates and CCM - Phase 2	
4565	US SAP Testing Automation	
NOTE	These projects estimates are not defined yet. Each project will be sanction...	
		0.000

Prior Sanctioning History

<i>Date</i>	<i>Governance Body</i>	<i>Sanctioned Amount</i>	<i>Potential Project Investment</i>	<i>Sanction Type</i>	<i>Sanction Paper</i>	<i>Potential Investment Tolerance</i>
-------------	------------------------	--------------------------	-------------------------------------	----------------------	-----------------------	---------------------------------------

N/A

Key Milestones

<i>Milestone</i>	<i>Date (Month / Year)</i>
Start Up	April, 2019
Partial Sanction	June, 2019
Begin Requirements and Design	June, 2019
Project Sanction	October, 2019
Begin Development and Implementation	October, 2019
Move to Production / Final Go Live	March, 2020
Project Closure Sanction	September, 2020

Next Planned Sanction

<i>Date (Month/Year)</i>	<i>Purpose of Sanction Review</i>
October, 2019	Sanction

Category

<i>Category</i>	<i>Reference to Mandate, Policy, NPV, or Other</i>
<input type="radio"/> Mandatory	This project will set the environments required for SAP portfolio projects, including annual mandated changes requested by federal and state agencies, such as Internal Revenue Services (IRS) and various state Departments of Finances, as well as different municipalities which must be applied to the SAP core solution in order to properly reflect employees' wages, employee and company withholdings, legal requirements and to comply with federal and state regulatory reporting.
<input type="radio"/> Policy-Driven	
<input type="radio"/> Justified NPV	
<input checked="" type="radio"/> Other	

Asset Management Risk Score: 49

PRIMARY RISK SCORE DRIVER

☐ Reliability ☐ Environment ☐ Health & Safety ☒ Not Policy Driven

Complexity Level: 24

☐ High Complexity ☒ Medium Complexity ☐ Low Complexity ☐ N/A

Process Hazard Assessment

A Process Hazard Assessment (PHA) is required for this project: ☐ Yes ☒ No

Current Planning Horizon

Capex	0.000	2.353	0.000	0.000	0.000	0.000	0.000	2.353
Opex	0.000	0.806	0.000	0.000	0.000	0.000	0.000	0.806
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	3.159	0.000	0.000	0.000	0.000	0.000	3.159

Resources, Operations, & Procurement

RESOURCE SOURCING

Engineering & design Resources to be provided ☒ Internal ☐ Contractor

Construction/Implementation Resources to be provided ☒ Internal ☒ Contractor

RESOURCE DELIVERY

Availability of internal resources to delivery project: ☐ Red ☐ Amber ☒ Green

Availability of external resources to delivery project: ☐ Red ☐ Amber ☒ Green

OPERATIONAL IMPACT

Outage impact on network system ☐ Red ☐ Amber ☒ Green

PROCUREMENT IMPACT

Procurement impact on network system: ☐ Red ☐ Amber ☒ Green

Key Issues

N/A

Climate Change

Contribution to National Grid's 2050 80% emissions reduction target: ☒ Neutral ☐ Positive ☐ Negative

Impact on adaptability of network for future climate change: ☒ Neutral ☐ Positive ☐ Negative

List References

N/A

Safety, Environmental and Project Planning Issues

There are no significant issues beyond what has been described elsewhere.

Permitting

N/A

Investment Recovery and Customer Impact

Investment Recovery

Recovery will occur at the time of the next rate case for any operating company receiving allocations of these costs.

Customer Impact

N/A

Execution Risk Appraisal

N/A

Business Plan

<i>Business Plan Name & Period</i>	<i>Project Included in approved Business Plan?</i>	<i>(Over) / Under Business Plan</i>	<i>Project Cost relative to approved Business Plan (\$M)</i>
IT Investment Plan FY20-24	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Over <input type="radio"/> Under <input checked="" type="radio"/> N/A	0.000

If Cost > Approved

if costs > approved Business Plan how will this be funded?

N/A

Drivers

The primary driver is to improve IT project implementation schedules by creating a landscape to support all projects and initiatives within the SAP Portfolio.

CIAC Reimbursement

N/A

Cost Summary Table

Project

Project

Project

Number 5392	Title	US SAP: Infrastructure Landscape FY20						Estimate Level
Spend	Prior Yrs	Yr 1 2020	Yr 2 2021	Yr 3 2022	Yr 4 2023	Yr 5 2024	Yr 6 2025	Total
Capex	0.000	2.353	0.000	0.000	0.000	0.000	0.000	2.353
Opex	0.000	0.806	0.000	0.000	0.000	0.000	0.000	0.806
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	3.159	0.000	0.000	0.000	0.000	0.000	3.159

Total Project Sanction

Capex	0.000	2.353	0.000	0.000	0.000	0.000	0.000	2.353
Opex	0.000	0.806	0.000	0.000	0.000	0.000	0.000	0.806
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	3.159	0.000	0.000	0.000	0.000	0.000	3.159

Project Costs per Business Plan

\$M	Prior Yrs	Yr 1 2020	Yr 2 2021	Yr 3 2022	Yr 4 2023	Yr 5 2024	Yr 6 2025	Total
Capex	0.000	2.353	0.000	0.000	0.000	0.000	0.000	2.353
Opex	0.000	0.806	0.000	0.000	0.000	0.000	0.000	0.806
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Cost in Bus. Plan	0.000	3.159	0.000	0.000	0.000	0.000	0.000	3.159

Variance

\$M	Prior Yrs	Yr 1 2020	Yr 2 2021	Yr 3 2022	Yr 4 2023	Yr 5 2024	Yr 6 2025	Total
Capex	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Opex	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Variance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Sanction Request Breakdown by Project

Project Number	Capex	Opex	Removal	Total
5392	2.833	0.627	0.000	3.460

Cost Assumptions

The accuracy level of estimate for each project is identified in the Cost Summary Table.

Net Present Value / Cost Benefit Analysis

N/A

NPV Assumptions & Calculations

N/A

Additional Impacts

N/A

Statement of Support

Department	Individual	Responsibilities
Business Department	Gramas, Jason A.	Business Representative
Business Partner (BP)	Semel, Joel	Relationship Manager
Program Delivery Management (PDM)	Parikh, Samir	Program Delivery Director
IT Finance	Harris, Michelle	Manager
IT Regulatory	DeMauro, Daniel J.	Director
Digital Risk and Security (DR&S)	Wilson, Elaine	Director
Service Delivery	Mirizio, Mark	Manager
Enterprise Architecture	Clinchot, Joseph J.	Director
Enterprise Portfolio Management	Cronin, Daniel	Analyst

Reviewers

Function	Individual
Regulatory	Mancinelli, Lauri A.
Jurisdictional Delegate - Electric NE	Easterly, Patricia
Jurisdictional Delegate - Electric NY	Harbaugh, Mark A.
Jurisdictional Delegate - FERC	Hill, Terron
Jurisdictional Delegate - Gas NE	Smith, Amy
Jurisdictional Delegate - Gas NY	Wolf, Don
Procurement	Chevere, Diego

Decisions

I:

- (a) APPROVE the investment of \$2.700M and a tolerance of +/-10% for Requirements and Design.
- (b) NOTED the potential investment of 3.159M and a tolerance of +/-25%, contingent upon submittal and approval of a Project Sanction paper following completion of final engineering and design.
- (c) NOTED that Parikh, Samir has the approved financial delegation to undertake the activities stated in (a).

Signature

Date

David H. Campbell, Vice President US Treasury, USSC Chair

Appendix

COST BREAKDOWN STRUCTURE TABLE

Project Cost Breakdown \$ (millions)					
Cost Category	sub-category	Value of Work to Date (VOWD)	Forecast to Complete (FTC)	Forecast At Completion (FAC=VOWD+FTC)	Name of Firm(s) providing
Personnel	NG Resources	-	-	-	
	SDC Time & Materials	-	-	-	IBM
		-	-	-	WiPro
		-	-	-	DXC
		-	-	-	Verizon
	SDC Fixed-Price	-	-	-	IBM
		-	-	-	WiPro
		-	-	-	DXC
		-	-	-	Verizon
	All other personnel	-	-	-	
	TOTAL Personnel Costs	-	-	-	
Hardware	Purchase	-	-	-	
	Lease	-	-	-	
Software		-	-	-	
Risk Margin		-	-	-	
AFUDC		0.098	0.098	0.098	
Other		3.362	3.362	3.362	
	TOTAL Costs	-	3.459	3.459	

Benefiting Operating Companies



US Sanction Paper

Title:	Grid Modernization ADMS Phase 1	Sanction Paper #:	USSC-19-169
Project #:	INVP 5471A Capex: S008020	Sanction Type:	Partial Sanction
Operating Company:	National Grid USA Svc. Co.	Date of Request:	4/22/2019
Author:	Martin McDermott	Sponsor:	Chris Kelly, US Chief Electric Engineer
Utility Service:	IT	Project Manager:	Ginelle Davidson

1 **Executive Summary**

1.1 **Sanctioning Summary**

This paper requests partial sanction of INVP 5471A in the amount of \$6.790M with a tolerance of +/- 10% for the purposes of Requirements and Design.

This sanction amount is \$6.790M broken down into:

\$4.840M Capex

\$1.950M Opex

\$0.000M Removal

NOTE the potential investment of \$28.875M with a tolerance of +/- 25%, contingent upon submittal and approval of a Project Sanction paper following completion of design.

1.2 **Project Summary**

This partial sanction is for the development of requirements, Statement of Work (SOW) and contracts for Advanced Distribution Management System (ADMS) which includes Distribution Supervisory Control and Data Acquisition (DSCADA) and Outage Management System (OMS) platforms, along with hardware and software, to satisfy the requirements of National Grid and regulatory commitments.

Allowances for ADMS/DSCADA project are included in the Massachusetts Grid Modernization Docket, the NY (Niagara Mohawk) rate case (Case 17-E-0238 and 17-G-0239) settlement, and the Rhode Island (NECO) rate case settlement and may be proposed in upcoming RI Grid Mod filing.

Upon completion of requirements and design the project will seek full sanctioning for procurement of the applications, along with the hardware/software required and partnering with the selected vendor and partners to implement the ADMS advanced applications portion of the system.



US Sanction Paper

A follow-on investment (INVP 5471B) will be submitted during this project for the design and implementation of DSCADA and a refresh of the Outage Management System (OMS). Requirements for that effort will be captured as part of this investment to ensure a cohesive solution.

1.3 Summary of Projects

Project Number	Project Type (Elec only)	Project Title	Estimate Amount (\$M)
INVP 5471A Capex: S008020	Project Type	Grid Modernization ADMS Phase 1	28.875
Total			28.875

1.4 Associated Projects

Project Number	Project Title	Estimate Amount (\$M)
INVP 5471B	Grid Modernization ADMS Phase 2 (DSCADA/OMS)	29.500
Total		29.500

1.5 Prior Sanctioning History

None

1.6 Next Planned Sanction Review

Date (Month/Year)	Purpose of Sanction Review
December 2019	Project Sanction



US Sanction Paper

1.7 Category

Category	Reference to Mandate, Policy, NPV, or Other
<input type="radio"/> Mandatory <input type="radio"/> Policy- Driven <input type="radio"/> Justified NPV <input checked="" type="radio"/> Other	<p>This Grid Modernization investment builds the base platform to incorporate enhanced operational capabilities related to increased penetration of Distributed Energy Resources (DER) and Distribution Automation (DA) while continually maintaining or improving grid reliability.</p> <p>Allowances for ADMS/DSCADA project are included in the Massachusetts Grid Modernization Docket, the Niagara Mohawk rate case settlement, and the Rhode Island rate case settlement.</p>

1.8 Asset Management Risk Score

Asset Management Risk Score: 39

Primary Risk Score Driver: (Policy Driven Projects Only)

☐ Reliability
☐ Environment
☐ Health & Safety
☒ Not Policy Driven

1.9 Complexity Level

☒ High Complexity
☐ Medium Complexity
☐ Low Complexity
☐ N/A

Complexity Score: 27

1.10 Process Hazard Assessment

A Process Hazard Assessment (PHA) is required for this project:

☐ Yes
☒ No



US Sanction Paper

1.11 Business Plan

Business Plan Name & Period	Project included in approved Business Plan?	Over / Under Business Plan	Project Cost relative to approved Business Plan (\$)
Business Investment Plan FY20 - 24	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Over <input type="radio"/> Under <input checked="" type="radio"/> NA	

1.12 If cost > approved Business Plan how will this be funded?

N/A

1.13 Current Planning Horizon

\$M	Prior Yrs	Current Planning Horizon						Total
		Yr. 1 2019/20	Yr. 2 2020/21	Yr. 3 2021/22	Yr. 4 2022/23	Yr. 5 2023/24	Yr. 6 + 2024/25	
CapEx	0.000	6.522	16.278	2.350	0.000	0.000	0.000	25.150
OpEx	0.012	2.012	1.120	0.581	0.000	0.000	0.000	3.725
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CIAC/Reimbursement	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.012	8.534	17.398	2.931	0.000	0.000	0.000	28.875

1.14 Key Milestones

Milestone	Target Date: (Month Year)
Start Up	March 2019
Partial Sanction	April 2019
Begin Requirements and Design	April 2019
Project Sanction	December 2019
Begin Development and Implementation	January 2020
Begin User Acceptance Testing	September 2020
Move to Production / Last Go Live	June 2021
Project Closure	September 2021



US Sanction Paper

1.15 Resources, Operations and Procurement

Resource Sourcing			
Engineering & Design Resources to be provided	<input checked="" type="checkbox"/> Internal	<input checked="" type="checkbox"/> Contractor	
Construction/Implementation Resources to be provided	<input checked="" type="checkbox"/> Internal	<input checked="" type="checkbox"/> Contractor	
Resource Delivery			
Availability of internal resources to deliver project:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
Availability of external resources to deliver project:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
Operational Impact			
Outage impact on network system:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
Procurement Impact			
Procurement impact on network system:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green

1.16 Key Issues (include mitigation of Red or Amber Resources)

N/A

1.17 Climate Change

Contribution to National Grid's 2050 80% emissions reduction target:	<input checked="" type="radio"/> Neutral	<input type="radio"/> Positive	<input type="radio"/> Negative
Impact on adaptability of network for future climate change:	<input checked="" type="radio"/> Neutral	<input type="radio"/> Positive	<input type="radio"/> Negative

1.18 List References

N/A



US Sanction Paper

2 Decisions

The Senior Executive Sanctioning Committee (SESC) at a meeting held on 04/22/2019:

- (a) APPROVED this paper and the investment of \$6.790M and a tolerance of +/-10% for the purposes of Requirements and Design.
- (b) NOTED the potential run-the-business (RTB) impact of \$2.160 (per annum) for 5 years.
- (c) NOTED the potential investment \$28.875M and a tolerance of +/- 25%, contingent upon submittal and approval of a Project Sanction paper following completion of requirements and design.
- (d) NOTED that Ginelle Davidson has the approved financial delegation to undertake the activities stated in (a).

Signature.....Date.....

Margaret Smyth
US Chief Financial Officer
Chair, Senior Executive Sanctioning Committee



US Sanction Paper

3 Sanction Paper Detail

Title:	Grid Modernization ADMS Phase 1	Sanction Paper #:	USSC-19-169
Project #:	INVP 5471A Capex: S008020	Sanction Type:	Partial Sanction
Operating Company:	National Grid USA Svc. Co.	Date of Request:	4/22/2019
Author:	Martin McDermott	Sponsor:	Chris Kelly, US Chief Electric Engineer
Utility Service:	IT	Project Manager:	Ginelle Davidson

3.1 Background

National Grid operates an ABB Outage Management System (OMS) in both the NY and NE operating regions. The existing computing hardware and software supporting the OMS was procured in 2009 and is approaching end of life. The DMS software is an extension of the existing OMS software & hardware architecture.

National Grid operates an ABB Network Manager Supervisory Control and Data Acquisition (SCADA) system that includes transmission and distribution device data as well as the transmission Energy Management System (EMS) functionality utilized for transmission operations.

Presently the production OMS and SCADA systems are not integrated. The OMS operates stand-alone and does not receive real time data or status from the SCADA system.

Preparation work and due diligence:

In 2016, a National Grid Control Centers Roadmap effort was undertaken with Accenture to develop a framework and roadmap to enable the implementation of platforms and tools to satisfy the needs of today and support the operations vision of the future.

In 2016, a DMS pilot project was also carried out to help understand our present vendor's capabilities as well as internal changes required to support a full-scale rollout of ADMS functionality.

The two efforts summarized above helped to define our approach to implement a common vendor platform for ADMS as well as verify present vendors product roadmap and define supporting systems and resource requirements for this full ADMS implementation.



US Sanction Paper

The complete ADMS solution will be delivered in a phased approach over two investments. Phase 1: (INVP 5471A) providing system infrastructure, baseline monitoring and functionality, sizing and scalability to provide operational benefits. Phase 2: (INVP 5471B) expands ADMS functionality for control and automation on common platform for OMS/DMS and DSCADA enhancing situational awareness and operations.

3.2 Drivers

Key Business Drivers:

- Expand situational awareness and visibility of future predicted states with respect to system operations
- The proliferation of Distributed Energy Resource (DER) interconnections requires additional system capabilities to maintain efficient and reliable operations
- ADMS creates a platform to enable utilization of exponential growth of remote monitoring, control and distribution automation
- Develop an intelligent network platform that provide safe, reliable and efficient electric services by integrating diverse resources into Operations and markets in accordance with the NY REV & DSIP initiative
- Foundational investments for transition to Distributed System Platform (DSP)

3.3 Project Description

This investment (Phase 1) will deliver the following:

- Develop and document requirements, develop SOW and contract for the (ADMS/DSCADA) applications, hardware and supporting software (Phase 1 and Phase 2)
- Design the ADMS platform, implementation and acceptance testing to satisfy the requirements of National Grid ADMS Phase 1 project
- Implement ADMS Project
 - DMS system build and data population
 - Test and verify baseline applications functionality
 - Production implementation of monitor and inform functionality via baseline applications

This project will be delivered using National Grid US Business, CNI, Information Services, and Verizon resources.



US Sanction Paper

3.4 Benefits Summary

Benefits of this investment include:

- Enables system operations to maintain or improve reliability under the growing system complexities associated with the integration of DER
- Provides Control Center Operations advanced monitoring visualization capabilities to assist in operating the system in real time and contingent conditions
- Assists in creating efficient system operations and the potential to defer capital investments where possible

3.5 Business and Customer Issues

There will be an element of change management and training for the business associated with the implementation of these software systems. This will be managed as functionality is rolled out to production.

3.6 Alternatives

Alternative 1: Delay the project

This alternative is not a viable option, the work is required to support National Grid's Grid Modernization effort. This project, along with follow-on INVP 5471B, refreshes end of life HW and SW for present production Outage Management System (OMS), helps to support continued stability/compliance for BES Energy Management System (EMS), and is a foundational investments for transition to Distributed System Platform (DSP).

Alternative 2: Move forward with a different vendor for ADMS

Work has been done to outline the benefits and project savings associated with rolling out an OMS, DMS, and DSCADA on a common vendor platform. Our present production OMS and SCADA systems are ABB systems. This ADMS project and cost estimates as proposed assume a phased rollout of an ABB DSCADA and an upgrade to the present ABB OMS/DMS hardware and software creating a common vendor ADMS platform. Run the Business (RTB) costs related to additional full time support personnel also assumes common vendor platform.

Implementing an ADMS with our present vendor to achieve a common platform achieves an estimated \$6.5M in project savings over Phase 1 and Phase 2 by:

- Reduction in training costs for both support and end users on a new system Human-Machine Interface (HMI)
- Reduction in change management costs related to outage management and emergency storm response processes
- Utilizing present interfaces to OMS with minimal re-work
- Migration of present SCADA and OMS system data (DB tables, one line diagrams, etc.) into the new version software without large data translation efforts



US Sanction Paper

3.7 Safety, Environmental and Project Planning Issues

There are no significant issues beyond what has been described elsewhere.

3.8 Execution Risk Appraisal

Risk Breakdown Structure Category	Qualitative Assessment / Risk Response Strategy					Risk Score
	Risk ID + Title	IF Statement	THEN Statement	Risk Response Strategy		
17. Unknown Unknowns	R1 - Unknown Requirement/Scope	IF additional scope is determined within requirements	THEN Cost and/or timeline may increase	Reduce	Ensure all scope is fully known and understood, lock down early	6
14. Project Dependences	R2 - Project Dependences	IF RTU separation/GIS projects run late	THEN the timeline of the project my be extend	Share	Stay in close contact with related projects sharing timelines and making dependencies clear	6
7. Procurement Contracts	R3 - Vendor Selected	IF the current vendor is not selected	THEN economies of scale may be lost driving up the costs and timeline	Accept	Determine vendor early on in requirements and adjust timeline and cost projection if required.	12
15. NERC Compliance	R4 - NERC Compliance requirements	IF the project is required to be fully NERC compliant	THEN costs and timeline will increase	Reduce	Design for NERC compliance where possible	8
11. Construction	R5 - Data Center Capacity	IF the planned data center needs to be built out to support the additional hardware	THEN a buildout will be required increasing time/cost	Reduce	Durring requirements a engineering study will be done of each data center, some funding has been set aside for possible construction as requierd.	4
10. Vendor	R6 - Current Vendor undergoing sales/merger	IF the current vendor is purchased/merged	THEN long term vendor commitment may be in question	Share	Keep in contact with supplier along with new owners get commitment of future viability at the highest levels.	8

Risks and assumptions related to this investment include:

- Detailed project cost and timeline for project will not be fully known until after requirements phase
- Additional funding will be required beyond what is in some existing jurisdictional allowances and be included in future rate cases
- ADMS/DSCADA project has dependencies on the RTU separation and GIS enhancement efforts
- ADMS will be designed to compliance standards, however the system is not planned for full NERC compliance. In the event DSCADA becomes deemed a NERC BES Cyber Asset, project costs / timeline and RTB cost will increase significantly
- Present SCADA/OMS vendor ABB undergoing sale/merger with Hitachi creating unknown for future development and support of applications



US Sanction Paper

3.9 Permitting

N/A

3.10 Investment Recovery

3.10.1 Investment Recovery and Regulatory Implications

This investment is covered in current rate cases, additional recovery which may be required will occur at the time of the next rate case for any operating company receiving allocations of these costs.

3.10.2 Customer Impact

N/A

3.10.3 CIAC / Reimbursement

N/A

3.11 Financial Impact to National Grid

3.11.1 Cost Summary Table

					Current Planning Horizon						
Project Number	Project Title	Project Estimate Level (%)	Spend (\$M)	Prior Yrs	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6 +	Total
					2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	
INVP 5471A	Grid Modernization ADMS Phase 1	Est Lvl (+/- 25%)	CapEx	0.000	6.522	16.278	2.350	0.000	0.000	0.000	25.150
			OpEx	0.012	2.012	1.120	0.581	0.000	0.000	0.000	3.725
			Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			Total	0.012	8.534	17.398	2.931	0.000	0.000	0.000	28.875
Total Project Sanction			CapEx	0.000	6.522	16.278	2.350	0.000	0.000	0.000	25.150
			OpEx	0.012	2.012	1.120	0.581	0.000	0.000	0.000	3.725
			Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			Total	0.012	8.534	17.398	2.931	0.000	0.000	0.000	28.875



US Sanction Paper

3.11.2 Project Budget Summary Table

Project Costs per Business Plan

		Current Planning Horizon						
		Prior Yrs (Actual)	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6 +
\$M			2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
CapEx	0.000	6.523	16.278	2.350	0.000	0.000	0.000	25.151
OpEx	0.012	2.012	1.120	0.580	0.000	0.000	0.000	3.724
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Cost in Bus. Plan	0.012	8.535	17.398	2.930	0.000	0.000	0.000	28.875

Variance (Business Plan-Project Estimate)

		Current Planning Horizon						
		Prior Yrs (Actual)	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Yr. 6 +
\$M			2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
CapEx	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001
OpEx	0.000	0.000	0.000	(0.001)	0.000	0.000	0.000	(0.001)
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Cost in Bus. Plan	0.000	0.001	0.000	(0.001)	0.000	0.000	0.000	(0.000)

3.11.3 Cost Assumptions

- This investment will be managed by a National Grid Project Manager.
- Project will utilize internal National Grid Resources, external consultants and vendor resources
- Requirements definition and project management will be a common effort between all jurisdictions resulting in synergy savings
- Vendor contract negotiations for all jurisdictions should result in economies of scale savings
- Project and Run the Business (RTB) estimates as well as timelines assume common platform approach and extension/upgrade of present vendor solution capturing change management savings (as documented in 2017 CCO Roadmap by Accenture)
- Costs of license and services will be confirmed in requirements
- The accuracy level of estimate for each project is identified in table 3.11.1

3.11.4 Net Present Value / Cost Benefit Analysis

This is not an NPV Investment.



US Sanction Paper

3.11.5 Additional Impacts

N/A

3.12 Statements of Support

3.12.1 Supporters

The supporters listed have aligned their part of the business to support the project.

Department	Individual	Responsibilities
Business Department	John Franklin	Business Representative
Business Partner (BP)	Robert Lorkiewicz	Relationship Manager
Program Delivery Management (PDM)	Helen Smith	Program Delivery Director
IT Finance	Michelle Harris	Manager
IT Regulatory	Daniel DeMauro	Director
Digital Risk and Security (DR&S)	Elaine Wilson	Director
IT CNI	Nate Purdy	Director
Service Delivery	Mark Mirizio	Manager
Enterprise Architecture	Svetlana Lyba	Director

3.12.2 Reviewers

The reviewers have provided feedback on the content/language of the paper.

Function	Individual
Regulatory	Harvey, Maria
Jurisdictional Delegate - Electric NE	Easterly, Patricia
Jurisdictional Delegate - Electric NY	Harbaugh, Mark A.
Jurisdictional Delegate - FERC	Hill, Terron
Procurement	Chevere, Diego



US Sanction Paper

4 Appendices

4.1 Sanction Request Breakdown by Project

\$M	INVP 5471A Capex: S008020	Total
CapEx	4.840	4.840
OpEx	1.950	1.950
Removal		0.000
Total	6.790	6.790

4.2 Project Cost Breakdown

Project Cost Breakdown \$ (millions)					
Cost Category	sub-category	Value of Work to Date (VOWD)	Forecast to Complete (FTC)	Forecast At Completion (FAC=VOWD+FTC)	Name of Firm(s) providing resources
Personnel	NG Resources		8.882	8.882	
	SDC Time & Materials		0.367	0.367	IBM
			-	-	WiPro
			-	-	DXC
			1.064	1.064	Verizon
	SDC Fixed-Price		-	-	IBM
			-	-	WiPro
			-	-	DXC
			-	-	Verizon
	All other personnel		4.436	4.436	
	TOTAL Personnel Costs	-	14.749	14.749	
Hardware	Purchase		2.400	2.400	
	Lease		0.260	0.260	
Software			5.000	5.000	
Risk Margin			2.444	2.444	
AFUDC			1.714	1.714	
Other			2.308	2.308	
TOTAL Costs		-	28.875	28.875	

4.3 NPV Summary

N/A

4.4 Customer Outreach Plan

None required.



US Sanction Paper

4.5 Benefiting Operating Companies

This investment will benefit Electric Distribution only.

Benefiting Operating Companies Table:

Operating Company Name	Business Area	State
Niagara Mohawk Power	Electric Distribution	NY
Massachusetts Electric Company	Electric Distribution	MA
Narragansett Electric Company	Electric Distribution	RI
Nantucket Electric Company	Electric Distribution	MA

4.6 IT Ongoing Operational Costs (RTB):

This project will increase IT ongoing operations support costs as per the following table. These are also known as Run the Business (RTB) costs.

all figures in \$ thousands						
INV ID:	INVP 5471A				Date RTB Last Forecasted	02/22/2019
Investment Name:	Grid Modernization ADMS Phase 1					
Project Manager:	Ginelle Davidson			PDM:	Ginelle Davidson	
All figures in \$ thousands	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Total
	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	
Last Sanctioned Net Impact to RTB						
Last Sanction IS Net Impact to RTB						-
Last Sanction Business Net Impact to RTB						-
Last Sanction Total Net Impact to RTB	-	-	-	-	-	-
Planned/Budgeted Net Impact to RTB						
IS Investment Plan Net Impact to RTB						-
Business Budgeted Net Impact to RTB						-
Currently Forecasted Net Impact to RTB						
IS Funded Net Impact to RTB Forecasted at Go-Live	37.5	1,307.5	1,560.0	1,560.0	1,560.0	6,025.0
Business Funded Net Impact to RTB Forecasted at Go-Live	75.0	525.0	600.0	600.0	600.0	2,400.0
Variance to Planned/Budgeted Net Impact to RTB						
IS Investment Plan Net Impact to RTB Variance	(37.5)	(1,307.5)	(1,560.0)	(1,560.0)	(1,560.0)	(6,025.0)
Business Budgeted Net Impact to RTB Variance	(75.0)	(525.0)	(600.0)	(600.0)	(600.0)	(2,400.0)

There is an expect increase in Business resources required to run the new application, IT costs will be determined during requirements.

4.7 Other Appendices



Long: US Sanction Paper

Title:	INVP 5472 GRC Archer Risk and Migration	Sanction Paper #:	USSC-18-328 v2
Project #:	INVP 5472	Sanction Type:	Sanction
Capex #:	S007987		
Operating Company:	National Grid USA Svc. Co.	Date of Request:	5/8/2019
Author:	Lunn, David Pool, Graham	Sponsor:	Davidson, Rachael Global Head of Ethics & Compliance
Utility Service:	IT	Project Manager:	Lunn, David

Executive Summary

This paper requests Sanction of INVP 5472 in the amount of \$2.369M with a tolerance of +/-10% for the purposes of Development and Implementation.

This sanction amount is \$2.369M broken down into:

- \$1.500M Capex
- \$0.869M Opex
- \$0.000M Removal

Project Summary

This project will implement the next phase of Governance, Risk and Compliance (GRC) technology to address National Grid's existing fragmented GRC landscape. A new RSA Archer v6.3 platform has been implemented with Audit Management and Financial Controls successfully deployed to it. This next phase of the GRC Archer program will build further on the Archer v6.3 platform upgrading to version 6.5, enabling Enterprise Risk Management (ERM) and existing users of the legacy Archer v5.5 platform to adopt the new system.

The legacy Archer v5.5 and Global Risk Management System (GRMS) will be decommissioned as part of the project work.

Background

National Grid's approach to governance, risk, compliance and assurance was fragmented, impacting business effectiveness at Enterprise level. Over time, National Grid had introduced a broad range of GRC initiatives across the organisation. However, these initiatives need to be effectively co-ordinated at group level in an era when risks are interdependent and controls are shared. Without action there is a potential for increased overall business risk for the organisation.

Embracing an integrated GRC process approach provides a centralised method for gathering important risk, controls and compliance data, conducting assessments and tests and most importantly, reporting to management the findings and overall risk and compliance position the company is currently facing in the most efficient way, empowering effective decision making.

For example, in some cases complex risk and compliance requirements are managed using simple

technologies including spreadsheets, SharePoint and email. In other cases, home-grown or outdated solutions are in use which are aging and unsupported. These solutions do not integrate and can lead to duplication of business process efforts, lack of cross functional visibility, inefficiencies and cost to the business in maintaining the GRC landscape. This increases business risks and impacts including heavily manual and time consuming processes, duplication and increased risk of incorrect data, slow information flow and delayed or inaccurate reporting. In addition, business risk increases when manual, siloed reporting does not provide the holistic picture across the work of all GRC and assurance teams for the organisation and for each business segment within National Grid plc.

Since May 2017, a Steering Group has been in place to oversee GRC processes and system strategy. This Steering Group has endorsed the adoption of best practice GRC processes implemented through the RSA Archer system which is a leading GRC technology platform. This programme is driving the coordination of assurance and controls testing across the three lines of defence and the integration of risk and compliance processes to meet the Business Management System (BMS) risk and assurance standards and adopt leading practices for transparent, effective management and decision making.

The RSA Archer v6.3 platform has been in place for Corporate Audit and Sarbanes Oxley (Sox) Financial Control since July 2018. Following the successful delivery of that phase, the Steering Group is now recommending that ERM processes are implemented alongside migration of processes from the legacy technology platforms.

In December 2018 the GRC Archer Risk and Migration programme was partially sanctioned for \$0.398 million for the United States (US) portion of the project with an expectation that \$2.396 million total project cost would be required for the US funding portion. It should be noted that GRC Archer Risk and Migration is a global programme with total global cost ~ \$3.500M.

Project Descriptions

The next phase of the GRC Archer Program will continue to build on the Archer v6.3 platform enabling ERM and existing users of the legacy v5.5 Archer platform to adopt the new system, further integrating the overall National Grid GRC processes. The previously sanctioned Requirements and Design (R&D) phase has proceeded well and is within budget. In summary, the delivery objectives for the development and implementation phase are as follows:

- RSA Archer capability for Group Assurance incorporating ERM, Ethics, Regulatory and Non-regulatory Compliance and Global Information Records Management (IRM)
- RSA Archer capability for Digital Risk & Security (DR&S) Risk, Policy and Compliance
- RSA Archer capability for US North American Electric Reliability Corporation Critical Infrastructure Protection (NERC CIP)
- Build and configuration work required for all the above areas
- Migration of existing business processes and data from Archer v5.5, GRMS and spreadsheet sources (where required) to Archer v6 platform
- Delivery of testing according to the testing strategy
- Deployment of the solution to the production environment
- Early Life Support
- Service transition management
- Technical knowledge transfer to the support team
- Vendor portal capability and infrastructure
- Enhanced reporting capability – integration with Tableau
- MyHub and ServiceNow integration
- Upgrade of the Archer v6 platform to v6.5
- Decommissioning RSA Archer v5.5 and GRMS platforms
- Business change, communications and training

The GRC Archer program board authorized use of the sanctioned risk and change budget to address the following areas of business scope change during April 2019 as follows. These areas will be included in delivery:

- Incorporation of UK Business Conduct Case Management into the US Ethics Archer solution being migrated from Archer v5.5 to give one global ethics module
- Obligation compliance certification for New York Public Service Commission
- Tracking of regulatory obligations and actions necessary to allow for customer rate changes
- Testing of controls against the control framework with additional management and reporting for non-compliance issue and remediation

- Enablement of control standard testing and creation of a vendor assessment with workflow and direct response capabilities for DR&S

Summary of Benefits

The benefits originally identified in the R&D sanction paper remain achievable:

- Information Technology (IT) saving associated with decommissioning of RSA Archer v5.5 and GRMS as indicated in the table below
- IT cost avoidance of on-going system maintenance to two legacy systems (Archer 5.5 and GRMS) and cost of GRMS replacement within next 5 years
- Facilitating external partner submission of evidence and responses to assurance questionnaires
- Enhanced management of risks and opportunities by the business through significantly enhanced capability for reporting and tracking eliminating use of current manual/time-consuming processes, duplication of effort and potential for human error
- Provision of clearer, more accurate and more timely reporting to board level executives
- Improved management of risk mitigation actions through automatic reminders to action owners
- Improved organizational view through risks and controls linked to single common source enterprise components
- Wider business use of the core data model provides greater data sharing and fluidity in responding to regulatory, operational, and financial risks and compliance needs
- Integration to current and future enterprise data sources reduces the effort of manually correlating data from disparate systems
- Enables business leaders (for example, first line of defense) to drive accountability for remediating weaknesses in risks and controls as identified in audit and assurance work

Benefits	Yr 1 18/19	Yr 2 19/20	Yr 3 20/21	Yr 4 21/22	Yr 5 22/23	Total (\$M)
IT savings	(0.076)	(0.076)	(0.076)	(0.076)	(0.076)	(0.382)

Business and Customer Issues

There are no significant business or customer issues beyond what has been described elsewhere.

Alternatives

Number	Title
1	<p>RSA Archer v5.5 migration only - minimum cost alternative</p> <p>Rejected: This option has a slightly shorter timescale and lower delivery cost and achieves centralization of the existing business processes onto the new platform but does not address the core requirement to enable ERM adoption of the Archer platform. ERM processes are a fundamental aspect of the National Grid GRC landscape and therefore a key component of the integrated GRC objective. The benefits relating to risk and mitigation would be lost without the inclusion of ERM in the delivery. In addition, the project would not meet the goal to dispense with all the manual and out dated processes which currently form part of the GRC landscape.</p> <p>Indicative cost: USD 1.5M with a tolerance of +/- 25%</p>
2	<p>Alternative 2: Retain status quo</p> <p>Rejected: This option has no project delivery costs but there is no alignment with National Grid GRC needs or strategy. Disparate/ aging systems and inefficiencies would remain. No Run The Business (RTB) benefit will be realized. Aging systems which are out of support are at increasing risk of failure with decreasing options for correction. Manual processes and inefficiencies will continue to mean that National Grid is at increased risk of failing to adequately identify and address its risks or confidently adhere to its compliance obligations.</p> <p>Indicative cost: N/A</p>

Related Projects, Scoring and Budget

Summary of Projects

Project Number	Project Type (Elec only)	Project Title	Estimate Amount(\$M)
5472		INVP 5472 GRC Archer Risk and Migration	2.369
Total:			2.369

Associated Projects

Project Number	Project Title	Estimate Amount (\$M)
		0.000

Prior Sanctioning History

Date	Governance Body	Sanctioned Amount	Potential Project Investment	Sanction Type	Sanction Paper	Potential Investment Tolerance
12/18/2018	USSC	\$0.398M	\$2.396M	Partial Sanction	USSC-18-328	10%

Key Milestones

Milestone	Date (Month / Year)
Project Sanction	May, 2019
Begin Development and Implementation	May, 2019
Begin User Acceptance Testing	June, 2019
Move to Production / Final Go Live	October, 2019
Project Closure Sanction	November, 2019

Next Planned Sanction

Date (Month/Year)	Purpose of Sanction Review
November, 2019	Closure

Category

Category	Reference to Mandate, Policy, NPV, or Other
<input type="radio"/> Mandatory <input type="radio"/> Policy-Driven <input type="radio"/> Justified NPV <input checked="" type="radio"/> Other	The project will enhance compliance with the BMS ERM Ethics Standards through improved end-user interfaces and reporting capabilities. Compliance tracking, particularly with new rate case requirements, will also be improved. Additionally implementation of the system will facilitate the Company's journey to an integrated assurance program and replace older and unsupported systems.

Asset Management Risk Score: 27

PRIMARY RISK SCORE DRIVER

☐ Reliability
☐ Environment
☐ Health & Safety
☒ Not Policy Driven

Complexity Level: 19

☐ High Complexity
☒ Medium Complexity
☐ Low Complexity
☐ N/A

Process Hazard Assessment

A Process Hazard Assessment (PHA) is required for this project: ☐ Yes ☒ No

Current Planning Horizon

Capex	0.097	1.403	0.000	0.000	0.000	0.000	0.000	1.500
Opex	0.175	0.694	0.000	0.000	0.000	0.000	0.000	0.869
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.272	2.097	0.000	0.000	0.000	0.000	0.000	2.369

Resources, Operations, & Procurement

RESOURCE SOURCING

Engineering & design Resources to be provided	<input checked="" type="checkbox"/> Internal	<input checked="" type="checkbox"/> Contractor
Construction/Implementation Resources to be provided	<input checked="" type="checkbox"/> Internal	<input checked="" type="checkbox"/> Contractor

RESOURCE DELIVERY

Availability of internal resources to delivery project:	<input type="radio"/> Red	<input checked="" type="radio"/> Amber	<input type="radio"/> Green
Availability of external resources to delivery project:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green

OPERATIONAL IMPACT

Outage impact on network system	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
---------------------------------	---------------------------	-----------------------------	--

PROCUREMENT IMPACT

Procurement impact on network system:	<input type="radio"/> Red	<input type="radio"/> Amber	<input checked="" type="radio"/> Green
---------------------------------------	---------------------------	-----------------------------	--

Key Issues

- 1 Business change resource onboarding is delayed with potential to impact business change delivery.
- 2 Business scope changes requested late in the requirements and design process have been assessed in short order. Although sufficient understanding has been achieved, this may give rise to complications if requirements have not been fully understood.
- 3 MyHub integration. MyHub data may not be ready for Archer to import and implement. Manual workaround currently in operation may be required to continue.

Climate Change

Contribution to National Grid's 2050 80% emissions reduction target:	<input checked="" type="radio"/> Neutral	<input type="radio"/> Positive	<input type="radio"/> Negative
Impact on adaptability of network for future climate change:	<input checked="" type="radio"/> Neutral	<input type="radio"/> Positive	<input type="radio"/> Negative

List References

N/A

Safety, Environmental and Project Planning Issues

There are no significant issues beyond what has been described elsewhere.

Permitting

N/A

Investment Recovery and Customer Impact

Investment Recovery

Recovery will occur at the time of the next rate case for any operating company receiving allocations of these costs.

Customer Impact

N/A

Execution Risk Appraisal

Risk Breakdown Structure Category	Qualitative Assessment / Risk Response Strategy					Risk Score
	Risk ID + Title	IF Statement	THEN Statement	Risk Response Strategy		
13. Project Management	R1 - Delivery delay	If delivery takes longer or requires more effort because of resource availability and lack of schedule clarity.	Then there may be increased spend or delay to project schedule.	Reduce	Work to clearly identify schedule and resource requirements ensuring that the programme is clear on direction and resourcing. Include risk budget for unforeseen aspects.	12
13. Project Management	R2 - Integrated risk management	If programme goals of integrated risk management and coordinated assurance are not realised through failing to properly align processes, harmonise functionality and ways of working.	Then true GRC integration benefit will not be achieved with common language and holistic enterprise level enhanced reporting unattained.	Avoid	Separate business workstream planned to set out transformational change strategy across all user groups in the first, second and third lines of defense. Steering group round table planned to ensure guiding principles are agreed, and documented in a GRC playbook. Include regular review of design and challenge to ensure that an optimal solution drives towards this goal.	8
13. Project Management	R3 - Governance structure	If the governance structure and rules agreed and implemented by the GRC founding user groups on Archer v5.5 do not fully align to the governance structure and rules of GRC Archer v6.3.	Then the v6 system governance will not work correctly leading to confusion and productivity losses amongst users.	Avoid	Review planned to align both governance models before deployment of phase 3 teams' solutions.	6
13. Project Management	R4 - Business resource availability	If the required stakeholders representing the wider Enterprise GRC business community are not available to the project in the required time frame.	Then the project may be delayed with consequent increase in costs.	Reduce	Ensure clear plan of required engagements received from implementation partners. Identify and secure engagement from required stakeholders.	12
13. Project Management	R5 - MyHub integration	If MyHub data will not align with Archer requirements.	Then manual processes may need to continue to be used.	Accept	Project activities are included to review the MyHub and Archer organisational data sets, identify misalignments and agree activities to correct.	6
13. Project Management	R6 - Business change resource	If business change resource is not available in time for commencement of the delivery phase.	Then business change aspects of the programme will be delayed or less effective.	Reduce	Programme manager is working with UK and US business change contacts to identify the necessary support. Dialogue also underway with business colleagues to understand how business areas can support the need.	16

13. Project Management	R7 - RSA environment fees	If migration does not complete before the annual RSA second environment charge becomes due.	Then an additional fee will be payable for this service.	Accept	Negotiate with RSA. Ring fence risk budget to be prepared to pay this fee.	16
13. Project Management	R8 - Business process complexity	If additional process complexity impacts business take-up and use of the system – (eg. ERM risk entry process steps.)	Then the effectiveness of the system will be impacted.	Reduce	Ensure business change are aware so that communications and training can be established to address the concern.	6
13. Project Management	R9 - Enhanced reporting	If the enhanced reporting integration will not be available early enough to provide certain specific audit reports.	Then audit may opt to source such reports from alternative sources.	Avoid	Implementation partner engagement directly with audit contacts to develop early report edition using Archer data with Tableau desktop.	4
13. Project Management	R10 - Testing coverage	If the testing coverage required for migrating areas requires additional work and time to complete.	Then additional work and cost will be required.	Reduce	Required coverage identified and included in KPMG work for delivery. Progress to be monitored to ensure sufficient coverage and quality.	4
13. Project Management	R11 - Schedule clarity	If the programme has insufficient clarity to plan deployment groupings and timings.	Then the schedule may need to be adjusted after delivery commences leading to possible delays and additional cost.	Reduce	Implementation partner made aware of the need. Work proceeding on assessing the changes needed and associated programme delivery plan.	9
13. Project Management	R12 - Implementation partner	If the implementation partner does not always follow through on points raised during R&D.	Then business areas may be dissatisfied with the final solution leading to reduced system use.	Reduce	Requirement capture and tracing processes more firmly established and communicated. Implementation partner capturing needs even where not to be delivered. Business Analyst monitoring delivery.	6
13. Project Management	R13 - Customisation	If the system is over-customised and moves too far from Out Of Box functionality.	Then the system will be more difficult to support in future.	Reduce	Implementation partner and business areas made aware of this design goal. Degree of customisation being monitored and reported back to the programme.	6
13. Project Management	R14 - Data migration complexity	If business resource is unable to deal with data migration requirements in time; takes longer than planned; finds the work more complex or is impacted by poor quality inputs.	Then additional programme time or cost to resolve would be needed impacting the programme budget and timelines.	Reduce	Data migration planning underway to ensure as effective an approach as possible. Implementation partner engaged to assist. Include risk budget to address unforeseen complexities.	12

Business Plan

Business Plan Name & Period	Project Included in approved Business Plan?	Over / Under Business Plan	Project Cost relative to approved Business Plan (\$M)
IT Investment Plan FY20 - 24	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Over <input type="radio"/> Under <input type="radio"/> N/A	(0.099)

If Cost > Approved

if costs > approved Business Plan how will this be funded?

Drivers

Embracing an integrated GRC process approach will provide a centralized method for gathering important risk and compliance data, conducting assessments and tests and most importantly, reporting to management the findings and overall risk and compliance position the company is currently facing in the most efficient way,

empowering effective decision making.

By replacing the outdated and manual processes with a central integrated approach, National Grid will significantly improve its ability to manage its risk and compliance obligations.

CIAC Reimbursement

N/A

Cost Summary Table

Project Number	Project Title	Project Estimate Level	Spend	Prior Yrs	Yr 1 2020	Yr 2 2021	Yr 3 2022	Yr 4 2023	Yr 5 2024	Yr 6 2025	Total
5472	INVP 5472 GRC Archer Risk and Migration	+/- 1...	Capex	0.097	1.403	0.000	0.000	0.000	0.000	0.000	1.500
			Opex	0.175	0.694	0.000	0.000	0.000	0.000	0.000	0.869
			Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			Total	0.272	2.097	0.000	0.000	0.000	0.000	0.000	2.369
Total Project Sanction			Capex	0.097	1.403	0.000	0.000	0.000	0.000	0.000	1.500
			Opex	0.175	0.694	0.000	0.000	0.000	0.000	0.000	0.869
			Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			Total	0.272	2.097	0.000	0.000	0.000	0.000	0.000	2.369

Project Costs per Business Plan

\$M	Prior Yrs	Yr 1 2020	Yr 2 2021	Yr 3 2022	Yr 4 2023	Yr 5 2024	Yr 6 2025	Total
Capex	0.097	1.319	0.000	0.000	0.000	0.000	0.000	1.416
Opex	0.175	0.679	0.000	0.000	0.000	0.000	0.000	0.854
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Cost in Bus. Plan	0.272	1.998	0.000	0.000	0.000	0.000	0.000	2.270
\$M	Prior Yrs	Yr 1 2020	Yr 2 2021	Yr 3 2022	Yr 4 2023	Yr 5 2024	Yr 6 2025	Total
Capex	0.000	(0.084)	0.000	0.000	0.000	0.000	0.000	(0.084)
Opex	0.000	(0.015)	0.000	0.000	0.000	0.000	0.000	(0.015)
Removal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Variance	0.000	(0.099)	0.000	0.000	0.000	0.000	0.000	(0.099)

Cost Assumptions

- Estimates have been developed using internal estimating tools, previous Archer project delivery experience and quotations from implementation partners.
- Implementation partner has been selected via RFP
- The estimate was developed in 2019
- The accuracy level of estimate for each project is identified in the Cost Summary Table
- GRC Archer Risk and Migration is a global project. The delivery costs included in this paper represent the US portion of the costs based on the established 4 point allocation for global costs and the US specific in-scope area US NERC CIP.

Net Present Value / Cost Benefit Analysis

N/A

NPV Assumptions & Calculations

N/A

Additional Impacts

The project scope includes decommissioning legacy infrastructure which will result in an estimated RTB net saving of at least \$0.076M per year from completion.

Statement of Support

Department	Individual	Responsibilities
Business Department	Russell, Bruce	Business Representative
Business Partner (BP)	Pool, Graham	Relationship Manager
Program Delivery Management (PDM)	Adam, Joanne	Program Delivery Director
IT Finance	Harris, Michelle	Manager
IT Regulatory	Gill, Thomas F.	Manager
Digital Risk and Security (DR&S)	Shattuck, Peter	Manager
Service Delivery	Mirizio, Mark	Manager
Enterprise Architecture	Clinchot, Joseph J.	Director

Reviewers

Function	Individual
Regulatory	Mancinelli, Lauri A.
Jurisdictional Delegate - Electric NE	Easterly, Patricia
Jurisdictional Delegate - Electric NY	Harbaugh, Mark A.
Jurisdictional Delegate - FERC	Hill, Terron
Jurisdictional Delegate - Gas NE	Smith, Amy
Jurisdictional Delegate - Gas NY	Wolf, Don
Procurement	Chevere, Diego

Decisions

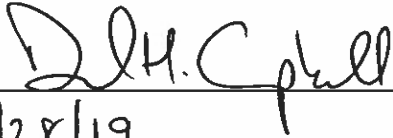
I:

(a) APPROVE the investment of \$2.369M and a tolerance of +/-10% for Development and Implementation.

(b) NOTED that Lunn, David has the approved financial delegation

(c) Approved the run-the-business (RTB) of \$0.076M (per annum) for 5 years.

Signature



Date

5/28/19

David H. Campbell, Vice President US Treasury, USSC Chair

Appendix

APPENDICES

SANCTION REQUEST BREAKDOWN BY PROJECT

N/A.

PROJECT COST BREAKDOWN

Project Cost Breakdown \$ (millions)					
Cost Category	sub-category	Value of Work to Date (VOWD)	Forecast to Complete (FTC)	Forecast At Completion (FAC=VOWD+FTC)	Name of Firm(s) providing resources
Personnel	NG Resources	0.030	0.057	0.087	
	SDC Time & Materials	0.150	0.399	0.549	IBM
		0.000	-	-	WiPro
		0.000	-	-	DXC
		0.000	-	-	Verizon
	SDC Fixed-Price	0.000	-	-	IBM
		0.000	-	-	WiPro
		0.000	-	-	DXC
		0.000	-	-	Verizon
	All other personnel	0.210	1.289	1.499	KPMG
	TOTAL Personnel Costs	0.390	1.745	2.135	
Hardware	Purchase	0.000	-	-	
	Lease	0.000	-	-	
Software		0.000	-	-	
Risk Margin			0.174	0.174	
AFUDC		0.006	0.035	0.041	
Other		0.001			Shared costs

		0.017	0.018	
TOTAL Costs	0.397	1.971	2.368	

NPV SUMMARY

N/A.

CUSTOMER OUTREACH PLAN

N/A.

BENEFITING OPERATING COMPANIES

BENEFITING OPERATING COMPANIES TABLE:

Operating Company Name	Business Area	State
National Grid USA Parent	Parent	
KeySpan Energy Development Corporation	Non-Regulated	NY
KeySpan Services Inc.	Service Company	
KeySpan Energy Corp.	Service Company	
KeySpan Energy Delivery New York	Gas Distribution	NY
KeySpan Energy Delivery Long Island	Gas Distribution	NY
KeySpan Generation LLC (PSA)	Generation	NY
KeySpan Glenwood Energy Center	Generation	NY
KeySpan Port Jefferson Energy Center	Generation	NY
Keyspan Energy Trading Services	Other	NY
Niagara Mohawk Power Corp.- Electric Distr.	Electric Distribution	NY
Niagara Mohawk Power Corp. - Gas	Gas Distribution	NY
Niagara Mohawk Power Corp. - Transmission	Transmission	NY
Massachusetts Electric Company	Electric Distribution	MA
Massachusetts Electric Company – Transmission	Transmission	MA
Nantucket Electric Company	Electric Distribution	MA
Boston Gas Company	Gas Distribution	MA
Colonial Gas Company	Gas Distribution	MA
Narragansett Gas Company	Gas Distribution	RI
Narragansett Electric Company	Electric Distribution	RI
Narragansett Electric Company – Transmission	Transmission	RI
New England Power Company – Transmission	Transmission	MA,NH,RI,VT
New England Hydro - Trans Corp.	Inter Connector	MA, NH
New England Electric Trans Corp	Inter Connector	MA
NG LNG LP Regulated Entity	Gas Distribution	MA,NY,RI
Trans Gas Inc.	Non-Regulated	NY

IT ONGOING OPERATIONAL COSTS (RTB):

THIS PROJECT WILL DECREASE IT ONGOING OPERATIONS SUPPORT COSTS AS PER THE FOLLOWING TABLE. THESE ARE ALSO KNOWN AS RUN THE BUSINESS (RTB) COSTS. RTB COSTS

ARE DECREASING BECAUSE THE PROJECT INCLUDES DECOMMISSIONING OF LEGACY INFRASTRUCTURE IN ITS SCOPE.

INV ID:	5472				Date RTB Last Forecasted	04/18/2019
Investment Name:	GRC Archer - Risk and Migration					
Project Manager:	Dave Lunn			PDM:	Jo Adam	
All figures in \$ thousands	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Total
	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	
Last Sanctioned Net Impact to RTB						
Last Sanction IS Net Impact to RTB	(76.8)	(76.5)	(76.5)	(76.5)	(76.5)	(382.9)
Last Sanction Business Net Impact to RTB	-	-	-	-	-	-
Last Sanction Total Net Impact to RTB	(76.8)	(76.5)	(76.5)	(76.5)	(76.5)	(382.9)
Planned/Budgeted Net Impact to RTB						
IS Investment Plan Net Impact to RTB	-	-	-	-	-	-
Business Budgeted Net Impact to RTB	-	-	-	-	-	-
Currently Forecasted Net Impact to RTB						
IS Funded Net Impact to RTB Forecasted at Go-Live	(76.8)	(76.5)	(76.5)	(76.5)	(76.5)	(382.9)
Business Funded Net Impact to RTB Forecasted at Go-Live	-	-	-	-	-	-
Variance to Planned/Budgeted Net Impact to RTB						
IS Investment Plan Net Impact to RTB Variance	76.8	76.5	76.5	76.5	76.5	382.9
Business Budgeted Net Impact to RTB Variance	-	-	-	-	-	-